BRITISH COLUMBIA PROVINCIAL MUSEUM

HANDBOOK No. 43

The Sedge Family

(Cyperaceae)

By T. M. C. Taylor

Illustrations by R. A. With

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T.M.C. "Tommy" Taylor

Thomas M.C. Taylor, 1904-1983, died after a brief illness as this book went to press. Thus ends a long and happy association, continuous for over 30 years, between this well-known Canadian botanist and the British Columbia Provincial Museum.

We have lost a good friend, but in his many books he will still be with us. His six titles in this museum's Handbook Series are a firm foundation for the published flora of British Columbia that some day must be done.

R. Yorke Edwards, Director
British Columbia Provincial Museum

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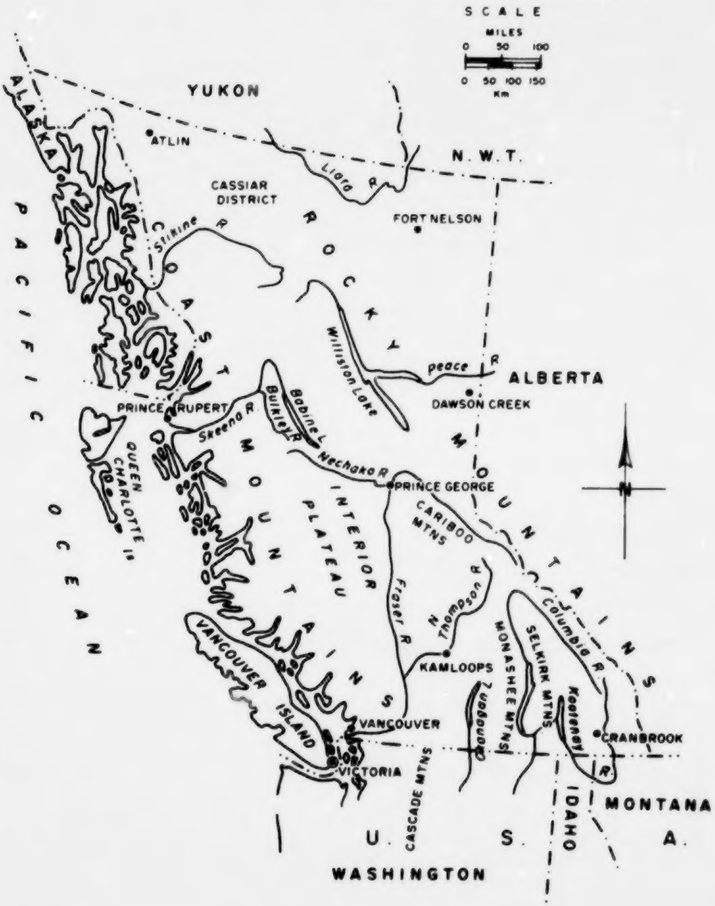
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INTRODUCTION

The Cyperaceae, or Sedge Family, is one of the larger in the Plant Kingdom including about 90 genera and perhaps as many as 4000 species. It is cosmopolitan being found on all continents, commonly in moist or wet places. Over 150 species are known to occur in British Columbia, 130 of these in *Carex* alone. In general sedges are perennial, grasslike plants. Their flowers are aggregated into heads or spikelets of various kinds. This diversity is clearly shown by comparing drawings from the genera included in this book.

The main purpose of this and other handbooks in the series is to aid in identifying species. Unfortunately sedges are notoriously difficult in this respect. This is due in part to the smallness and reduction of their flowers and to their general similarities in habit of growth and vegetative features. In order to distinguish one species from another, one has frequently to rely on small technical details. These details, in most cases, require the use of some form of magnifier. A relatively inexpensive pocket hand-lens with magnifications in the range of × 10 - × 20 is adequate although a low power microscope of the type known as a dissecting microscope is better. Complete, i.e. with underground parts, mature specimens are very desirable and in some cases essential for proper determination.

The illustrations for this book have been prepared with patience, care and skill by Mr. R.A. With to whom the author is indebted for this great contribution to the present work. For ease of reference the genera and species (except in the case of *Carex*) are arranged alphabetically. The species of *Carex* because of their number and for some other reasons are treated differently as is discussed on p. .

The following account of the Sedge Family in British Columbia is based, for the most part, on specimens in the collections of the University of British Columbia, the British Columbia Provincial Museum, the Biosystematic Institute, Ottawa, and the National Museum, Ottawa. These specimens also provide the data for the distribution map that accompanies the description of each species. There is nothing final or definitive about these maps, rather they indicate the present state of our knowledge of the distribution of the species. The Curator of Botany of the British Columbia Provincial Museum would welcome specimens extending the mapped range. A glossary is provided for those less familiar with some of the technical terms used in the descriptions. Finally a list of references is included for the interest of those who may wish more general accounts of certain genera or species.

Important among the references is the treatment of Cyperaceae by Arthur Cronquist in the five-volume work *Vascular Plants of the Pacific Northwest*, edited and largely written by Prof. C.L. Hitchcock of the Department of Botany, University of Washington, Seattle. Dr. Hitchcock is one of the leading systematic botanists in North America and is the greatest authority on the flora of the Pacific Northwest. Botanists, and plant lovers generally, owe Dr. Hitchcock a debt of gratitude for the production of this scholarly work in which not only is each species illustrated but after the name of each is given its nomenclatural history. There are also discussions of the variability of species over their range and other data of general interest. A more recent work from the same source is the single volume *Flora of the Pacific Northwest*. This is essentially a well-illustrated key and as such is unique and most helpful.

This handbook, like its predecessors, is in no way monographic and no revisions or new names will be found in it. Rather it is an attempt to provide an up-to-date account of the Cyperaceae of British Columbia based on the researches of various specialists, to all of these grateful acknowledgement is made.

Common names are not in general use for many species of the sedge family but for the benefit of those who like to use them one has been given in each case. A further debt that we owe to Dr. Hitchcock is the fact that in his *Flora* he has supplied common names for each of the species he includes. Some of the common names used here have been derived from other sources, but in general the writer is grateful for being able to draw on Dr. Hitchcock's selection.

Such value as this handbook may have is greatly enhanced by Mr. Ronald With's illustrations. The unfailing support and co-operation of Dr. Adam F. Szczawinski, lately Curator of Botany in the Provincial Museum, is gratefully acknowledged. The writer is also indebted to Dr. R.T. Ogilvie, Curator of Botany, British Columbia Provincial Museum, Victoria, to Dr. T.C. Brayshaw and to Dr. Adolf Ceska for reading the manuscript and for their critical comments; and to the curators of the herbaria at the National Museum of Natural Sciences, Ottawa, the Biosystematic Research Institute, Ottawa, and the University of British Columbia, Vancouver, for information and the loan of specimens. The encouragement

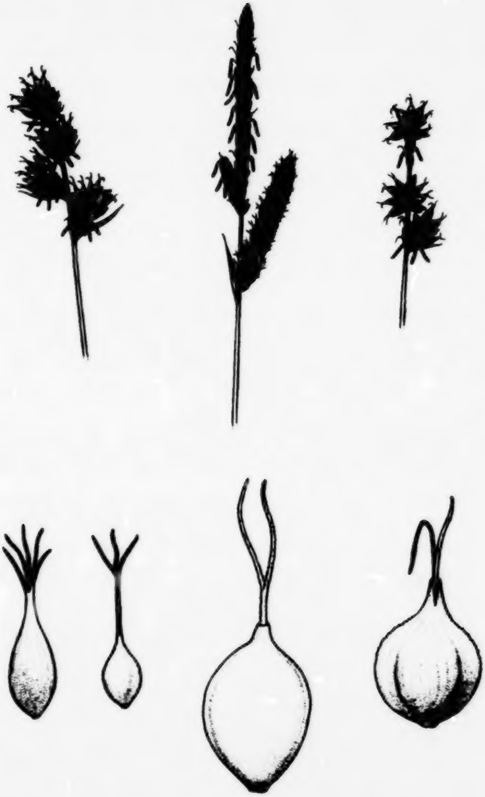


Illustration showing arrangements of staminate and pistillate flowers, also examples of perygynia. a and c. spikes with pistillate flowers above; b. pistillate and staminate flowers on separate spikes; d. perigynium with nerves and long, bidentate beak; e. pistil from the same showing ovary, long style and 3 stigmas; f. perigynium with a short beak and entire orifice; g. perigynium showing a dorsal suture at the base of the beak.

and support of Yorke Edwards, Director of the British Columbia Provincial Museum, is greatly appreciated.

CYPERACEAE Sedge Family

Herbaceous; perennial less commonly annual, grasslike or rushlike plants (though in some cases the leaves are undeveloped) often of damp boggy or marshy places. Roots fibrous, arising from short or elongated rhizomes. Stems mostly solid, usually 3-sided but sometimes round in section, generally not branched below the inflorescence. Leaves in basal tufts or on the lower portion of the stem then 3-ranked, grasslike with closed basal sheaths. Flowers small, borne in the axils of scaly bracts, bisexual or unisexual. Perianth lacking or represented by bristles of various numbers. Stamens commonly 3. Ovary superior, single celled; stigmas 2 or 3; ovule 1; style base sometimes persistent on the top of the ovary; fruit a small nutlike achene, in section either 3-angled, lens-shaped or round.

A very large family of about 90 genera and 4000 species, worldwide in distribution but with greatest development in the higher latitudes of both hemispheres.

KEY TO GENERA

1. Fertile flowers with both stamens and pistils.
    2. Scales of spikelet in 2 vertical rows, keeled.
        3. Inflorescences axillary arising from leaf sheaths; perianth of 6-9 bristles; stems hollow, terete, joined .... *Dulichium*
        3. Inflorescences terminal; perianth lacking; stems solid, usually 3-angled, not jointed .... *Cyperus*
    2. Scales of spikelets spirally arranged.
        4. Styles thickened towards the base forming a clearly differentiated tubercle.
            5. Spikelets 1; fertile flowers (or achenes) several to many per spikelet; perianth bristles 0-6 .... *Eleocharis*
            5. Spikelets several to many; fertile flowers 1, occasionally 2 per spikelet; perianth bristles 8 or more ..... *Rhyncospora*
        4. Styles not thickened to form a tubercle.
            6. Perianth of not more than 8 bristles or none, often barbed, usually not more than 3 times the length of the achene; floral scales rigid or firm .... *Scirpus*

6. Perianth of numerous, long, not barbed, silky bristles; floral scales membranaceous .... *Eriophorum*

1. Fertile flowers either staminate or pistillate.

7. Achene enclosed in a sac (the perigynium) open only at the summit which may be either entire or bidentate; staminate and pistillate flowers borne in different parts of the same spikelet or in separate spikelets on the same plant, some species are dioecious .... *Carex*

7. Achene enclosed in a bract-like spathe open on one side above the middle; spikelets unisexual or with 1 staminate and 1 pistillate flower .... *Kobresia*

CAREX L. Sedge

Perennial herbs. Roots fibrous from short or elongated rhizomes. Stems erect, solid, commonly 3-angled, usually leafy. Leaves grasslike, 3-ranked, generally linear, more or less keeled or with the margins rolled inwards, less often flat. The lowest leaves may be normally developed foliage leaves (plants phyllopodic), or they may be greatly reduced with a short non-green blade which is more or less sheathed (plants aphyllopodic). The base of the leaf forms a tubular sheath around the stem; the inner face of the sheath may be straight, concave, or prolonged. In some species the sheath splits to form a distinctive ladder-like fibrillose pattern. The outer part of the sheath projects above the base of the leaf blade as a ligule, which is fused for much of its length with the upper surface of the blade. The shape of the ligule may be acute, obtuse, rounded, or tubular. Inflorescences are mostly spikelike. Flowers unisexual, each in the axil of a scale; staminate flowers with no perianth and 3, less commonly 2, stamens; pistillate flowers lack perianth the ovary being enclosed in a sac (the perigynium) which is 3-angled or lens-shaped in cross section, the mouth is usually a longer or shorter beak from which the stigmas project. Ovary 1, 3-angled and stigmas 3, or lens-shaped and stigmas 2. Fruit a small nut-like achene developed within the perigynium, 3-angled or lens-shaped in cross section. In a few species a small, vestigial inflorescence branch, the rachilla, occurs inside the perigynium alongside the ovary.

The staminate and pistillate flowers may be variously arranged in the inflorescence and with few exceptions both kinds of flowers are present on the same plant. The flowers may be segregated into separate staminate and pistillate spikes or mixed. In the latter case the staminate flowers may be above the pistillate flowers (i.e. androgynous) or they may be below them (i.e. gynaecandrous); should the inflorescence be gynaecandrous the staminate flowers are commonly few and inconspicuous.

More than 1000 species are known some of which occur in all parts of the world. They are most abundant in the North Temperate Zone and the Arctic, in the tropics the species are found mostly in the mountains. In North America over 500 species have been recognized.

The identification of species of *Carex* is at best a difficult task for which mature and complete specimens are required. Key characters are based on details that can only be observed in such. In the present handbook 130 species are described as occurring in British Columbia. To facilitate their identification, the species of this large genus are divided into sections following the classical work of Mackenzie (see p.). The keys and descriptions are adapted from Mackenzie and F.J. Hermann. To identify a specimen, first start by using the key to sections on p. ; when its section has been determined turn to the appropriate sectional key and proceed to the species. In one case, viz. section Ovales, the section has been further subdivided into subsections. The key to these subsections will be found under Ovales (p.). For the benefit of any who may wish to refer to Mackenzie the numbering of his sections and species are given in parenthesis. The arrangement in this handbook is numerically by sections with the species arranged within its section or subsection (in the case of Ovales) in the sequence used by Mackenzie. This arrangement groups together species with similar characteristics so facilitating comparisons. Some variation is to be expected in details such as colour and size, dimensions given are from perigynia and scales from the central part of a spike.

Systematic List of British Columbia Carices

(Numbers in parenthesis are those of
sections and species in Mackenzie, 1931-35)

1. NARDINAE (1)
   1. *C. nardina* (1)
2. CAPITATAE (2)
   2. *C. capitata* (3)
3. INFLATAE (3)
   3. *C. engelmannii* (4)
4. CIRCINATAE (4)
   4. *C. anthoxanthea* (6)
   5. *C. circinata* (7)
5. CALLISTACHYS (5)
   6. *C. nigricans* (9)
   7. *C. pyrenaica* (8)

6. FOETIDAE (6)
    8. *C. incurviformis* (13)
7. DIVISAE (7)
    9. *C. douglasii* (15)
    10. *C. eleocharis* (16)
    11. *C. pansa* (18)
    12. *C. praegracilis* (19)
8. INTERMEDIAE (8)
    13. *C. sartwellii* (20)
9. ARENARIAE (9)
    14. *C. siccata* (22)
10. CHORDORRHIZAE (11)
    15. *C. chordorrhiza* (24)
11. BRACTEOSAE (12)
    16. *C. hoodii* (32)
12. MULTIFLORAE (13)
    17. *C. vulpinoidea* (64)
13. PANICULATAE (14)
    18. *C. diandra* (67)
    19. *C. prairea* (68)
    20. *C. cusickii* (69)
14. VULPINAE (15)
    21. *C. stipata* (75)
15. MACROCEPHALAE (16)
    22. *C. macrocephala* (81)
16. HELEONASTES (17)
    23. *C. disperma* (82)
    24. *C. trisperma* (83)
    25. *C. tenuiflora* (84)
    26. *C. loliacea* (85)
    27. *C. lachenalii* (87)
    28. *C. heleonstes* (88)
    29. *C. glareosa* (91)
    30. *C. brunnescens* (93)
    31. *C. praeceptorium* (95)
    32. *C. curta* (96)
    33. *C. arcta* (98)
17. DIOICAE (18)
    34. *C. gynocrates* (99)
18. STELLULATAE (19)
    35. *C. laeviculmis* (101)
    36. *C. interior* (105)
    37. *C. echinata* (112)
    38. *C. phyllomanica* (114)
19. DEWEYANAE (20)
    39. *C. deweyana* (121)
20. OVALES (21)
    I Festivae
    40. *C. haydeniana* (127)
    41. *C. limnophila* (127.1)
    42. *C. macloviana* (129)
    43. *C. illota* (136)
    II Leporinae
    44. *C. tracyi* (148)
    45. *C. phaeocephala* (149)
    46. *C. praticola* (151)
    III Specificae
    47. *C. petasata* (154)
    IV Festucaceae
    48. *C. crawfordii* (159)
    49. *C. scoparia* (160)
    50. *C. bebbii* (161)
    51. *C. tenera* (162)
    52. *C. brevior* (167)
    V Fetae
    53. *C. feta* (177)
    VI Foeneae
    54. *C. xerantica* (191)
    55. *C. aenea* (193)
    VII Athrostachyae
    56. *C. athrostachya* (195)
    57. *C. unilateralis* (196)
    VIII Cyperoideae
    58. *C. sychnocephala* (197)
21. POLYTRICHOIDEAE (22)
    59. *C. leptalea* (198)

22. PHYLLOSTACHYAE (23)
    60. *C. backii* (201)
23. FILIFOLIAE (24)
    61. *C. filifolia* (205)
24. OBTUSATAE (25)
    62. *C. obtusata* (208)
    63. *C. supina* (209)

25. MONTANAE (27)
    64. *C. peckii* (211)
    65. *C. pensylvanica* (223)
    66. *C. deflexa* (227)
26. SCIRPINAE (28)
    67. *C. scirpoidea* (237)
27. DIGITATAE (29)
    68. *C. concinna* (244)
    69. *C. concinnoides* (245)
    70. *C. richardsonii* (246)
28. RUPESTRES (32)
    71. *C. rupestris* (255)
    72. *C. glacialis* (256)
29. FIRMICULMES (33)
    73. *C. geyeri* (258)
30. ALBAE (34)
    74. *C. eburnea* (259)
31. BICOLORES (38)
    75. *C. aurea* (272)
    76. *C. bicolor* (269)
32. PANICEAE (39)
    77. *C. livida* (273)
    78. *C. vaginata* (279)
33. LAXIFLORAE (40)
    79. *C. hendersonii* (293)
34. GRANULARES (41)
    80. *C. crawei* (306)
35. CAPILLARES (48)
    81. *C. capillaris* (347)
36. LONGIROSTRES (49)
    82. *C. sprengelii* (350)
37. EXTENSAE (50)
    83. *C. viridula* (354)
    84. *C. flava* (358)
38. FERRUGINEAE (52)
    85. *C. petricosa* (361)
    86. *C. luzulina* (367)
    87. *C. misandra* (363)
39. HIRTAE (54)
    88. *C. lanuginosa* (384)
    89. *C. lasiocarpa* (385)
40. ANOMALAE (56)
    90. *C. amplifolia* (398)
41. LIMOSAE (59)
    91. *C. pluriflora* (407.1)
    92. *C. limosa* (407)
    93. *C. paupercula* (408)
    94. *C. macrochaeta* (409)
42. ATRATAE (60)
    95. *C. parryana* (412)
    96. *C. media* (413.1)
    97. *C. stylosa* (415)
    98. *C. podocarpa* (416)
    99. *C. spectabilis* (417)
    100. *C. paysonis* (419)
    101. *C. microchaeta* (418)
    102. *C. raynoldsii* (420)
    103. *C. gmelinii* (422)
    104. *C. buxbaumii* (437)
    105. *C. atrata* (425)
    106. *C. epapillosa* (427)
    107. *C. albonigra* (430)
    108. *C. atratiformis* (434)
    109. *C. mertensii* (435)
43. ACUTAE (61)
    110. *C. bigelowii* (438)
    111. *C. scopulorum* (440)
    112. *C. eleusinoides* (449)
    113. *C. lenticularis* (447)
    114. *C. kelloggii* (449)
    115. *C. aperta* (453)
    116. *C. sitchensis* (456)
    117. *C. aquatilis* (457)
    118. *C. interrupta* (454)
44. CRYPTOCARPAE (62)
    119. *C. lyngbei* (477)
    120. *C. obnupta* (481)
45. *ORTHOCERATES* (64)
    121. *C. pauciflora* (487)
46. PSEUDOCYPEREAE (67)
    122. *C. microglochin* (486)
    123. *C. comosa* (495)
    124. *C. hystricina* (493)

47. PALUDOSAE (68)
125. *C. atherodes* (502)
48. VESICARIAE (70)
126. *C. saxatilis* (512)
127. *C. exsiccata* (516)
128. *C. membranacea* (517)
129. *C. rostrata* (520)
130. *C. retrorsa* (523)

KEY TO SECTIONS

1. Spike solitary.
2. Stigmas 2; achenes lenticular.
3. Spike either staminate or pistillate above.
4. Perigynia tapering at the base, stipitate or substipitate, striate.
5. Stems densely tufted, not stoloniferous; perigynia erect or ascending; plants of dry alpine habitats .... 1. *NARDINAE*
5. Stems single or few together, stoloniferous; perigynia spreading or reflexed at maturity; plants of wet, mossy habitats at middle or higher elevations ...... 17. *DIOICAE*
4. Perigynia rounded at the base, sessile, nerveless .... 2. *CAPITATAE*
3. Spike either entirely staminate or pistillate .... 17. *DIOICAE*
2. Stigmas 3; achenes trigonous.
6. Perigynia strongly inflated, sessile or nearly so, not becoming reflexed; pistillate scales persistent .... 3. *INFLATAE*
6. Perigynia not inflated.
7. Pistillate scales deciduous; perigynia stipitate, at least the lower reflexed at maturity.
8. Perigynia 3.0-4.5 mm long, dark-tinged; style jointed with the achene .... 5. *CALLISTACHYS*
8. Perigynia 6.0-7.5 mm long, straw-coloured; style continuous with the achene .... 45. *ORTHOCERATES*
7. Pistillate scales persistent; perigynia not reflexed at maturity.
9. Perigynia rounded, beakless at the apex, many-nerved .... 21. *POLYTRICHOIDEAE*
9. Perigynia not rounded at the apex, beaked or beakless.
10. Spike androgynous.
11. Perigynia lanceolate .... 4. *CIRCINATAE*
11. Perigynia not lanceolate.
12. Perigynia coriaceous, shining .... 24. *OBTUSATAE*
12. Perigynia not both coriaceous and shining.
13. Perigynia finely striate; staminate portion of the spike very short, inconspicuous .... 1. *NARDINAE*

13. Perigynia 2-keeled, otherwise nerveless; staminate portion of the spike long, stout, conspicuous.

14. Perigynia pubescent or puberulent at least at the base of the beak, 2.5-3.5 mm long .... 23. *FILIFOLIAE*

14. Perigynia glabrous, 3.0-6.0 mm long.

15. Perigynia 3.0-4.0 mm long .... 28. *RUPESTRES*

15. Perigynia 6.0 mm long .... 29. *FIRMICULMES*

10. Spike entirely or very nearly staminate or pistillate; perigynia pubescent .... 26. *SCIRPINAE*

1. Spikes more than 1.

16. Stigmas mostly 2; achenes lenticular.

17. Lateral spikes short, sessile; terminal spike either staminate or pistillate above.

18. Perigynia white-puncticulate (under a lens) .... 16. *HELEONASTES*

18. Perigynia not white-puncticulate (under a lens).

19. Culms arising singly or few together from long, creeping rhizomes.

20. Culms not branching; mostly not sphagnum bog species.

21. Perigynia not wing-margined, the beak obliquely cut dorsally, becoming bidentulate.

22. Spikes densely aggregated into a globose or ovoid head, appearing like a single spike ... . 6. *FOETIDAE*

22. Spikes, at least the lower, distinct.

23. Upper sheath hyaline ventrally; perigynia not thin-margined .... 7. *DIVISAE*

23. Upper sheath green-striate ventrally, except near the mouth; perigynia with body thin-margined above .... 8. *INTERMEDIAE*

21. Perigynia wing-margined, the beak deeply bidentate .... 9. *ARENARIAE*

20. Culms becoming decumbent and sending up new culms from the axils of the old dried-up leaves; sphagnum bog species .... 10. *CHORDORRHIZAE*

19. Culms caespitose or the rhizomes short-prolonged and with short internodes, but not long-creeping.

24. Spikes staminate above.
25. Perigynia abruptly contracted into a beak.
26. Spikes few (generally 10 or less), often greenish; sheaths not red-dotted ventrally .... 11. *BRACTEOSAE*
26. Spikes numerous, usually brownish or yellowish; leaf sheaths often red-dotted at the mouth ventrally.
27. Perigynia yellowish or straw-coloured, plano-convex; leaf sheaths usually transversely rugulose ventrally .... 12. *MULTIFLORAE*
27. Perigynia brownish, thick plano-convex or rugulose ventrally ...... 13. *PANICULATAE*
25. Perigynia tapering into a beak ..... 14. *VULPINAE*
24. Spikes pistillate above.
28. Perigynia without wing-margins, at most thin-edged.
29. Perigynia ascending or spreading at maturity .... 18. *STELLULATAE*
29. Perigynia appressed .... 19. *DEWEYANAE*
28. Perigynia with winged margins ...... 20. *OVALES*
17. Lateral spikes peduncled or, if sessile, elongated; terminal spike staminate, rarely pistillate or staminate above.
30. Achenes jointed with the style; perigynia not lustrous.
31. Lowest bract long-sheathing; perigynia whitish-pulverulent or golden yellow at maturity ...... 31. *BICOLORES*
31. Lowest bract usually sheathless, occasionally short-sheathing; perigynia not pulverulent nor golden yellow at maturity.
32. Achenes not constricted in the middle .... 43 *ACUTAE*
32. Achenes constricted in the middle .... 44. *CRYPTOCARPAE*
30. Achenes continuous with the style; perigynia lustrous .... 48. *VESICARIAE*
16. Stigmas mostly 3; achenes trigonous.
33. Lateral spikes very numerous, sessile, short; perigynia plano-convex, strongly lacerate-winged ..... 15. *MACROCEPHALAE*
33. Lateral spikes not very numerous, usually not sessile; perigynia not lacerate-winged.
34. Perigynia pubescent, puberulent, or ciliate-scabrous.
35. Bracts reduced to bladeless sheaths ...... 27. *DIGITATAE*

35. Bracts sheathing or sheathless, blades well developed.

36. Perigynia closely enveloping the achene, strongly tapering at the base; bracts sheathless or nearly so . ... 25. *MONTANAE*

36. Perigynia not as above or, if so, the lowest bract strongly sheathing.

37. Bracts sheathless or very short-sheathing .... 39. *HIRTAE*

37. Bracts, at least the lower ones, long-sheathing .... 38. *FERRUGINEAE*

34. Perigynia glabrous.

38. Style jointed with the achene, not hardened, at length withering, decidious.

39. Scales (except sometimes the uppermost) leaflike, concealing and partly enveloping the perigynia; achenes strongly constricted at the base, rounded at the apex .... 22. *PHYLLOSTACHYAE*

39. Scales not leaflike; achenes not strongly constricted at their base, apiculate.

40. Lower bracts long-sheathing.

41. Bracts bladeless or with rudimentary blades.

42. Pistillate scales dark, blackish .... 38. *FERRUGINEAE*

42. Pistillate scales light, whitish, greenish or pale brown.

43. Leaf-blades filiform .... 30. *ALBAE*

43. Leaf-blades not filiform .... 33. *LAXIFLORAE*

41. Bracts with well-developed blades.

44. Beak of perigynium not bidentate.

45. Pistillate spike short, erect.

46. Perigynia tapering at the base, trigonous; achenes closely enveloped by the perigynium 32. *PANICAE*

46. Perigynia rounded at the base, suborbicular in cross-section; achenes loosely enveloped .... 34. *GRANULARES*

45. Pistillate spikes elongate, slender, or filiform, drooping peduncles .... 35. *CAPILLARES*

43. Beak of perigynium bidentate.

47. Spikes 5-10 mm long; perigynia nerved, soon divergent to reflexed, minutely bidentate, beak distinctly shorter than the body .... 37. *EXTENSAE*

47. Spikes 10-35 mm long; perigynia nerveless, ascending or at least not strongly divergent, strongly bidentate, beak nearly or quite as long as the body ....

36. *LONGIROSTRES*

- 40. Lower bracts sheathless or nearly so.
  - 48. Perigynia prominently beaked.
    - 49. Pistillate spikes 1-3, 5-8 mm long in compact heads; flowers few (3-10) .... 24. *OBTUSATAE*
    - 49. Pistillate spikes 3-6 (usually 4-5), 3-14 cm long, more or less separated; flowers numerous .. 40. *ANOMALAE*
  - 48. Perigynia beakless or very short beaked.
    - 50. Terminal spike staminate; roots clothed with yellow felt .... 41. *LIMOSAE*
    - 50. Terminal spike pistillate above or staminate; roots not clothed with yellow felt .... 42. *ATRATAE*
  - 38. Style continuous with the achene, hardened, not withering; leaves septate-nodulose; perigynia strongly nerved or ribbed.
    - 51. Perigynia finely and closely ribbed .... 46. *PSEUDOCYPERAE*
    - 51. Perigynia coarsely ribbed.
- 52. Perigynia subcoriaceous, firm, their teeth long .... 47. *PALUDOSAE*
- 52. Perigynia membranaceous, their teeth short .... 48. *VESICARIAE*

KEY TO SPECIES BY SECTIONS

1. NARDINAE

One species .... 1. *C. nardina*

2. CAPITATAE

One species .... 2. *C. capitata*

3. INFLATAE

One species .... 3. *C. engelmannii*

4. CIRCINATAE

- 1. Plants with slender, long-creeping rhizomes; leaves flat; perigynia short-beaked; scales chestnut-brown-tinged .... 4. *C. anthoxanthea*
- 1. Plants tufted or with short rhizomes; leaves thin, curled, canaliculate; perigynia long-beaked; scales red-tinged .... 5. *C. circinata*

5. CALLISTACHYS

- 1. Plants short-stoloniferous; leaves 4-9 to a fertile culm, blades 1.5-2.0 mm wide; staminate flowers many, conspicuous; perigynia early deflexed .... 6. *C. nigricans*

1. Plants densely caespitose; leaves mostly 4 to a fertile culm; staminate flowers few; perigynia erect until fully mature .... 7. *C. pyrenaica*

6. FOETIDAE

One species .... 8. *C. incurviformis*

7. DIVISAE

1. Rootstocks slender, light-brownish; culms obtuse-angled, normally smooth; leaf-blades narrowly involute, at least above.
    2. Plants dioecious or nearly so; perigynium beak nearly as long as the body; styles elongate .... 9. *C. douglasii*
    2. Spikes staminate above; perigynium beak shorter; styles short ... . 10. *C. eleocharis*
1. Rootstocks stout; culms sharply triangular, usually rough above; leaf-blades flat or channelled.
        3. Scales very dark chestnut-brown, shining; culms 0.5-3.0 dm tall; perigynia shining; maritime plants of coastal dunes and sandy beaches .... 11. *C. pansa*
        3. Scales lighter coloured, dull; culms 3-7 dm tall; perigynia dull; moist or wet, often alkali, places east of the Coast Mountains .... 12. *C. praegracilis*

8. INTERMEDIAE

One species .... 13. *C. sartwellii*

9. ARENARIAE

One species .... 14. *C. siccata*

10. CHORDORRHIZAE

One species .... 15. *C. chordorrhiza*

11. BRACTEOSAE

One species .... 16. *C. hoodii*

12. MULTIFLORAE

One species .... 17. *C. vulpinoidea*

13. PANICULATAE

1. Leaf sheaths pale or slightly copper coloured at the mouth; heads compact, commonly less than 5 cm long; perigynia not concealed by the scales .... 18. *C. diandra*
1. Leaf sheaths strongly copper coloured or yellowish-brown at the mouth; heads somewhat flexuous, interrupted, up to 10 cm long; perigynia nearly concealed by the scales.
    2. Leaves usually less than 3 mm broad, ligules very short, sheaths convex at the top; perigynia brownish at maturity; scales tinged with reddish-brown .... 19. *C. prairea*
    2. Leaves broader, up to 6 mm wide; ligules longer than broad, sheaths

concave at the top; perigynia brownish-black at maturity; scales tinged with chestnut-brown .... 20. *C. cusickii*

14. VULPINAE

One species .... 21. *C. stipata*

15. MACROCEPHALAE

One species .... 22. *C. macrocephala*

16. HELEONASTES

1. Spikes staminate above; perigynia unequally biconvex .... 23. *C. disperma*
1. Spikes (at least the uppermost) pistillate above; perigynia plano-convex
2. Lowest bract bristle-form, much prolonged, many times exceeding the 1-5 flowered spike; spikes widely separated .... 24. *C. trisperma*
2. Lowest bract much shorter or lacking; spikes several- to many-flowered, the upper approximate.
3. Perigynia beakless or nearly so; scales white-hyaline; loosely caespitose.
4. Spikes closely aggregated forming an ovoid or suborbicular head; perigynia with slender nerves .... 25. *C. tenuiflora*
4. Spikes remote; perigynia with prominent nerves .... 26. *C. loliacea*
3. Perigynia short-beaked to strongly beaked; scales often darker tinged; more densely or very densely caespitose.
5. Perigynia broadest near the middle; beak short, smooth or moderately serrulate.
6. Spikes 2-4, closely approximate; perigynia with beak smooth or nearly so; scales chestnut- or reddish-tinged.
7. Lateral spikes pistillate above; fresh-water habitats.
8. Culms smooth or nearly so; perigynia brownish-yellow, beak prominent, hyaline at apex .... 27. *C. lachenalii*
8. Culms very rough above; perigynia ashy or at length brown, reddish-brown at the apex .... 28. *C. heleonastes*
7. Lateral spikes uniformly pistillate; brackish marshes .... 29. *C. glareosa*
6. Spikes 3-9, at least the lower remote.
9. Perigynia loosely spreading, distinctly beaked, beak bidentate; leaf-blades 1.0-2.5 mm wide, not glaucous; spikes few-flowered .... 30. *C. brunnescens*
9. Perigynia appressed-ascending until over mature, at most very short beaked, beak entire or emarginate; leaf

blades 2-4 mm wide (rarely narrower), glabrous.

10. Pistillate scales strongly brown- or chestnut-brown-tinged; perigynia 1.5-1.75 mm long; spikes densely aggregated .... 31. *C. praeceptorium*
10. Pistillate scales hyaline with a green centre, usually brownish-tinged at maturity; lower spikes remote .... 32. *C. canescens*

5. Perigynia ovate, broadest near the base, beak conspicuous, strongly serrulate .... 33. *C. arcta*

17. DIOICAE

One species .... 34. *C. gynocrates*

18. STELLULATAE

1. Beak of perigynium smooth or nearly so, the body broadest near the middle .... 35. *C. laeviculmis*
   2. Perigynia small, 2.25-3.25 mm long, beak very shallowly bidentate, short, stout, one fourth to one third the length of the body .... 36. *C. interior*
   2. Perigynia 2.75-4.75 mm long, beak sharply bidentate, longer, relatively slender, one half to nearly as long as the body.
      3. Perigynia ovate, abruptly short-beaked, body nerveless ventrally or nearly so; midrib of pistillate scales prominent nearly or quite to the sharp tip .... 37. *C. echinata*
      3. Perigynia narrower, tapering to a long beak, body many-nerved ventrally; midrib of scales not reaching the flat, hyaline tip ... . 38. *C. phyllomanica*

19. DEWEYANAE

One species .... 39. *C. deweyana*

20. OVALES

1. Bracts not leaf-like nor conspicuously exceeding the inflorescence.
   2. Perigynia with beak slender, nearly terete, scarcely margined at the tip, the upper 1-2 mm little if at all serrulate, sometimes becoming bidentulate or bidentate.
      3. Perigynia 2.5-6.0 mm long, or if 7 mm long the scales very dark coloured.
         4. Scales shorter than the perigynia, noticeably narrower above, largely exposing the upper parts of the perigynia ... I. *Festivae*
         4. Scales about the same length as the perigynia, nearly the same width above, concealing the perigynia above or nearly so .... II. *Leporinae*
      3. Perigynia 6-8 mm long, lanceolate, scales chestnut or reddish-brown .... III. *Specificae*

2. Perigynia with beak flattened, margined to the tip, serrulate to the apex, often strongly bidentate.

    5. Scales shorter than the perigynia, noticeably narrower above and largely exposing the perigynia above.

        6. Leaf-sheath strongly white-hyaline ventrally .... IV. *Festucaceae*

        6. Leaf-sheath (at least of the uppermost leaf) green and strongly nerved ventrally nearly or quite to the mouth. .... V. *Fetae*

    5. Scales about the length of the perigynia, nearly the same width above, concealing the perigynia above or nearly so VI. *Foeneae*

1. Bracts either leaf-like or conspicuously exceeding the inflorescence.

    7. Bracts conspicuously exceeding the inflorescence, but not leaf-like .... VII. *Athrostachyae*

    7. Bracts many times exceeding the inflorescence, leaf-like .... VIII. *Cyperoideae*

Subsection I Festivae

1. Perigynia much flattened, thin and scale-like except where distended by the achene.

    2. Scales and perigynia not copper-coloured.

        3. Perigynia 4.5-6.0 mm long, greenish-straw-coloured, tinged with brown; heads triangular, 9-18 mm wide ...... 40. *C. haydeniana*

        3. Perigynia 2.5-3.5 mm long, olive-brown to blackish-brown; heads 5-10 mm wide .... 41. *C. limnophila*

    2. Scales brownish-copper-coloured; perigynia copper-brown, 3.5-4.3 mm long, concave, obscurely few-nerved ventrally towards the base .... 42. *C. macloviana*

1. Perigynia plano-convex, not very thin and scale-like.

    4. Perigynia 2.5-3.5 mm long, blackish-brown, margins of the beak entire .... 43. *C. illota*

    4. Perigynia 3.5-5.00 mm long, copper-brown to dark olivaceous-green, margins of the beak serrulate 42. *C. macloviana*

Subsection II. Leporinae

1. Beak of the perigynium deep reddish-brown at the tip ..... 44. *C. tracyi*

1. Beak of perigynium strongly white-hyaline at the tip.

    2. Culm and inflorescence stiff, culms 1-3 dm tall; scales strongly reddish-brown or darker tipped .... 45. *C. phaeocephala*

    2. Culms slender, 2-8 dm tall, inflorescence not stiff; scales light reddish-brown, the margins broadly silver-white-hyaline . 46. *C. praticola*

Subsection III. Specificae

One species . . . . 47. C. *petasata*

Subsection IV Festucaceae

1. Perigynia subulate to narrowly ovate-lanceolate, 3-4 times as long as wide.
   2. Perigynia 3-4 mm long, lanceolate-subulate, where distended by the achene 0.8-1.2 mm wide, margins nearly obsolete at the base . . . . 48. C. *crawfordii*
   2. Perigynia 4-7 mm long, lanceolate to narrowly ovate-lanceolate, 1.2-2.5 mm wide; noticeably wing-margined to the base 49. C. *scoparia*
1. Perigynia ovate-lanceolate or broader, at most twice as long as wide.
   3. Perigynia 3.0-4.5 mm long, 1.5-2.0 mm wide.
      4. Perigynia 3.0-3.5 mm long, brownish at maturity; spikes closely aggregated, rounded or truncate at the base 50. C. *bebbii*
      4. Perigynia 3.5-4.0 mm long, straw-coloured at maturity; spikes often abruptly short-clavate at the base, usually in a moniliform florescence . . . . 51. C. *tenera*
   3. Perigynia 3.5-5.5 mm long, 2.5-3.5 mm wide, broadly ovate or suborbicular, usually nerveless or nearly so ventrally, broadest near the middle, abruptly contracted into the beak . 52. C. *brevior*

Subsection V. Fetae

One species . . . . 53. C. *feta*

Subsection VI. Foeneae

1. Inflorescence stiff, the spikes aggregated or approximate . . . . 54. C. *xerantica*
1. Inflorescence flexuous or moniliform, not stiff . . . . 55. C. *aenea*

Subsection VII Athrostachyae

1. Beak of perigynium hyaline at the orifice, shallowly bidentate; lowest bract not appearing as a continuation of the culm . . . 56. C. *athrostachya*
1. Beak of the perigynium not hyaline at the orifice, bidentate; lowest bract appearing as a continuation of the culm . . . . 57. C. *unilateralis*

Subsection VIII Cyperoideae

One species .... 58. *C. sychnocephala*

21. POLYTRICHOIDEAE

One species .... 59. *C. leptalea*

22. PHYLLOSTACHYAE

One species .... 60. *C. backii*

23. FILIFOLIAE

One species .... 61. *C. filifolia*

24. OBTUSATAE

1. Spike one, staminate above; perigynia 3.0-3.5 mm long, usually exceeding the scales; basal sheaths dark purple .... 62. *C. obtusata*

1. Spikes 2-4, the terminal staminate, the lateral pistillate; perigynia 2.5-3.5 mm long, about equalling the scales; basal sheaths brownish-red .... 63. *C. supina*

25. MONTANAE

1. Staminate and pistillate spikes at most moderately separate.

  2. Perigynium body (excluding the stipitate base and beak) oblong-obovoid or elliptic, much longer than wide, very closely enveloping the achene .... 64. *C. peckii*

  2. Perigynium body (excluding the stipitate base and beak) orbicular-ovoid or very short oval, about as long as wide, less closely enveloping the achene .... 65. *C. pensylvanica*

1. Lower pistillate spikes widely separated on elongate, nearly basal peduncles; perigynia 3.5-4.5 mm long, more slender, the beak more than 1 mm long, deeply bidentate .... 66. *C. deflexa*

26. SCIRPINAE

One species .... 67. *C. scirpoidea*

27. DIGITATAE

1. Staminate spike 3-6 mm long; pistillate scales obtuse, ciliate, one half as long as the perigynia; stigmas very short .... 68. *C. concinna*

1. Staminate spike 8-25 mm long; pistillate scales acutish to acuminate, from somewhat shorter than to exceeding the perigynia; stigmas long, slender.

  2. Perigynia loosely pubescent, wider and longer than the ciliate scales; staminate spike sessile or nearly so; stigmas normally four .... 69. *C. concinnoides*

  2. Perigynia appressed-pubescent, narrower and shorter than the smooth scales; staminate spike noticeably peduncled; stigmas three .... 70. *C. richardsonii*

28. RUPESTRES

1. Culms strongly stoloniferous; spike solitary, staminate above; perigynia 3-4 mm long, finely nerved .... 71. *C. rupestris*
1. Culms very densely caespitose; spikes 2-4, the terminal staminate, the lateral pistillate; perigynia 2.5 mm long, 2-keeled, otherwise nerveless .... 72. *C. glacialis*

29. FIRMICULMES

One species .... 73. *C. geyeri*

30. ALBAE

One species .... 74. *C. eburnea*

31. BICOLORES

1. Lowest bract long-sheathing, concave at the mouth, mostly strongly exceeding the culm; mature perigynia golden-yellow or brownish, fleshy, translucent, coarsely ribbed .... 75. *C. aurea*
1. Lowest bract short-sheating, biauriculate, about equalling slightly exceeding the culm; mature perigynia glaucous-white, membranous, obscurely ribbed .... 76. *C. bicolor*

32. PANICEAE

1. Leaves very glaucous; perigynia elliptic, nearly beakless .... 77. *C. livida*
1. Leaves green; perigynia ovate, long-beaked .... 78. *C. vaginata*

33. LAXIFLORAE

One species .... 79. *C. hendersonii*

34. GRANULARES

One species .... 80. *C. crawei*

35. CAPILLARES

One species .... 81. *C. capillaris*

36. LONGIROSTRES

One species .... 82. *C. sprengelii*

37. EXTENSAE

1. Perigynia 2-3 mm long, not at all or little deflexed, the beak about one third as long as the body, smooth, or very nearly so. .... 83. *C. viridula*
1. Perigynia 4.5-6.00 mm long, the lower at least conspicuously deflexed, the beak about the length of the body, more or less serrulate at least toward the tip .... 84. *C. flava*

38. FERRUGINEAE

1. Terminal spike normally staminate above, the upper lateral spike sessile, the lower 1 or 2 drooping on capillary peduncles; plants with slender horizontal stolons .... 85. *C. petricosa*

1. Terminal spike staminate or pistillate above, the lateral pistillate; plants densely caespitose.
    2. Terminal spike staminate or staminate above; leaves 3-9 mm wide .... 86. *C. luzulina*
    2. Terminal spike pistillate above (sometimes wholly pistillate); leaves 1-3 mm wide .... 87. *C. misandra*

39. HIRTAE

1. Leaf-blades flat with revolute margins, 1.5-5.0 mm wide, long-attenuate; lowest bract moderately exceeding the culm; culms sharply triangular; achenes straight-apiculate .... 88. *C. lanuginosa*
1. Leaf-blades strongly involute except towards the base, 2 mm wide or less, very long-attenuate; lowest bract strongly exceeding the culm; culms obtusely triangular; achenes bent-apiculate .... 89. *C. lasiocarpa*

40. ANOMALAE

One species .... 90. *C. amplifolia*

41. LIMOSAE

1. Perigynia suborbicular-triangular in cross section, 4.0-4.5 mm long, tapering at the apex; pistillate scales broadly ovate to suborbicular .... 91. *C. pluriflora*
1. Perigynia compressed-triangular in cross section.
    2. Pistillate scales short-cuspidate to obtuse.
        3. Plant strongly stoloniferous; leaf-blades glaucous, involute or corrugated; pistillate scales obtuse or acute, as broad as or broader than the perigynia, barely exceeding them in length, persistent; staminate spike 15-27 mm long .... 92. *C. limosa*
        3. Plant loosely caespitose; leaf blades scarcely glaucous, flat; pistillate scales long-attenuate, much narrower and longer than the perigynia, early deciduous; staminate spike 4-12 mm long .... 93. *C. paupercula*
    2. Pistillate scales long-awned, awn slender, rough, 2-12 mm long .... 94. *C. macrochaeta*

42. ATRATAE

1. Pistillate scales small, 1.5-2.5 mm long, obtuse, acutish or short-mucronate; perigynia 2.0-2.5 mm long (rarely to 3.5 mm in *C. media* and *C. stylosa*).
    2. Terminal spike pistillate above (in *C. parryana* often wholly pistillate), bisexual spikes, if any, never staminate above.
        3. Scales dark reddish-brown, midrib conspicuous; perigynia scarcely beaked, more or less ciliate at the mouth, straw-coloured; pistillate spikes more or less separate; culms obtusely triangular .... 95. *C. parryana*

3. Scales purplish-black, midrib almost obsolete; perigynia beaked, no ciliate at the mouth, olive-green to olive-brown; pistillate spikes approximate; culms sharply triangular above . 96. *C. media*

2. Terminal spike staminate or staminate above bisexual spikes, if any, always staminate above.

4. Pistillate scales brownish; plants with short, creeping rhizomes, loosely tufted; perigynia more or less distinctly obovate; style soon deciduous, not notably exserted .... 95. *C. parryana*

4. Pistillate scales purplish-black; rhizomes short, stout; plants densely tufted; perigynia elliptic to elliptic-obovate; style exserted-persistent in early maturity, later deciduous .... 97. *C. stylosa*

1. Pistillate scales larger or sharp-pointed, or both; perigynia 3.0 mm long or more.

5. Terminal spike staminate.

6. Perigynia strongly flattened.

7. Leaves of fertile culms widely separate, only the upper 2-4 blade-bearing, the lower sheaths bladeless, leaves of the previous year not persistent or much desiccated at flowering time; culms reddish-tinged at the base.

8. Scales obtuse to acute, midvein nearly or quite obsolete or inconspicuous; perigynia 2-ribbed, otherwise nerveless; achenes slenderly long-stipitate .... 98. *C. podocarpa*

8. Scales with a conspicuous midvein usually more or less excurrent as a short cusp; perigynia obscurely nerved in addition to the 2 marginal nerves; achenes short-stipitate ... . 99. *C. spectabilis*

7. Leaves many on the lower third of the culms; culms clothed at the base with the dried leaves of the previous year, not reddish-tinged at the base.

9. Perigynia broadly ovate to orbicular, strongly nerved; spikes oblong, erect, sessile to short-pedunculate, closely approximate except the lower somewhat separate, long-pedunculate, erect or spreading; southern species .... 100. *C. paysonis*

9. Perigynia narrowly ovate to ovate, nerveless; spikes cylindric, pedunculate, approximate, erect to spreading, the lowermost occasionally long-pedunculate and drooping; extreme northern species .... 101. *C. microchaeta*

6. Perigynia plump, broadly elliptic to orbicular, nearly round or triangular in cross section, slightly or not at all flattened, nerved; scales narrower than the perigynia, tips acute . 102. *C. raynoldsii*

5. Terminal spike pistillate above.

  10. Pistillate scales awned, or at least cuspidate.

    11. Spikes distinctly pedunculate; scales abruptly slender-awned .... 103. *C. gmelinii*

    11. Spikes sessile; scales lanceolate, acuminate or awned .... 104. *C. buxbaumii*

  10. Pistillate scales not slender awned or cuspidate.

    12. Perigynia scarcely flattened, subinflated-triangular, apex of the perigynium body acute; scales often rough-papillose .... 105. *C. atrata*

    12. Perigynia strongly flattened.

      13. Spikes 2-6, not oblong-cylindric; perigynia 2.5-4.5 mm long, nerveless or obscurely nerved, dull green to brownish-green or red.

        14. Perigynia not granular-roughened (under a lens), margins smooth; pistillate scales elliptic-ovate, blunt to acute, sometimes mucronate, often shorter than the perigynia .... 106. *C.epapillosa*

        14. Perigynia granular-roughened (under a lens), especially on the upper margins.

          15. Spikes contiguous, sessile or short-pedunculate, forming a dense head; culms stiff, erect; scales purplish-black, apex and upper margins conspicuously white-hyaline .... 107. *C. albonigra*

          15. Spikes usually separate, the lowest strongly pedunculate; culms erect or nodding; scales light to dark purplish-red, margins more or less hyaline .... 108. *C. atratiformis*

      13. Spikes 6-10, oblong-cylindric; perigynia 5 mm long, lightly 3-nerved, light green; scales much shorter than the perigynia .... 109. *C. mertensii*

43. ACUTAE

1. Lowest bract shorter than the inflorescence; pistillate scales with obsolete or slender midveins; plants strongly stoloniferous, culms arising one or few together, low.

  2. Pistillate spikes slender, linear to narrowly oblong, generally 2-5 mm wide, usually few-flowered, the lowest slender-peduncled; perigynia ovate-lanceolate, plano-convex, appressed or ascending; lowest bract leaf-like .... 110. *C. bigelowii*

  2. Pistillate spikes stout, oblong, 6-10 mm wide, densely flowered, often aggregated, subsessile or the lowest short-peduncled; perigynia

obovate, soon turgid, spreading-ascending to wide-spreading; lower bracts scale-like .... 111. *C. scopulorum*

1. Lowest bract equalling or exceeding the inflorescence; pistillate scales with conspicuous midvein or with a broader, light-coloured centre; culms taller usually in large clumps.

3. Spikes ovate, aggregated at the top of the culm, the upper sessile, the lower stipitate, gynaecondrous .... 112. *C. enanderi*

3. Spikes cylindric or elongate, stipitate, the upper staminate.

4. Perigynia conspicuously nerved or ribbed ventrally, the nerves raised.

5. Lowest bract short-sheathing; sterile shoots with leaves (of more or less the same length) in a basal cluster; pistillate scales brownish-red-tinged; perigynia sessile .... 113. *C. lenticularis*

5. Lowest bract sheathless or nearly so; lower leaves of sterile shoots bladeless or nearly so, a few leaves with blades above; pistillate scales blackish; perigynia stipitate . 114. *C. kelloggii*

4. Perigynia nerveless ventrally or with obscure impressed nerves.

6. Perigynia turgid; scales widely divergent ...... 115. *C. aperta*

6. Perigynia not turgid, scales appressed.

7. Perigynia very small, not more than 2 mm long; achene closely enveloped by the perigynium .... 118. *C. interrupta*

7. Perigynium larger, mostly 2.0-3.5 mm long; achenes more loosely enveloped by the perigynia, the distal part of the perigynial cavity usually empty.

8. Plants with well-developed, deep-seated, horizontal rhizomes; spikes all erect, peduncles often less than 3 cm long; lowest bract usually 7-25 cm long .... 117. *C. aquatilis*

8. Plants tufted, rhizomes very short or lacking; lower spikes tending to nod on flexuous peduncles, lowest peduncle seldom less than 3 cm long; lowest bract mostly 20-50 cm long .... 116. *C. sitchensis*

44. CRYPTOCARPAE

1. Perigynia dull green to light brown; lower sheaths of sterile shoots not filamentose ventrally or sparingly so; lowermost pistillate spikes usually on long, flexuous, widely spreading to drooping peduncles .... 119. *C. lyngbyei*

1. Perigynia shining, brown in age, smooth; lower sheaths of sterile shoots strongly filamentose ventrally; lowermost pistillate spikes usually on short, stiff, erect peduncles .... 120. *C. obnupta*

45. ORTHOCERATES

1. Perigynia about 7 mm long, finely many-striate, lacking a rachilla; lowest sheath bladeless; culms to about 6 dm tall .... 121. *C. pauciflora*

46. PSEUDOCYPAREAE

1. Perigynia 4-5 mm long, obscurely many-striate, a slender process (the rachilla) projecting from the orifice and surpassing the stigmas; lowest leaf sheath bearing a blade; culms to about 2.5 dm tall .... 122. *C. microglochin*
1. Teeth of perigynial beak elongate, more than 1 mm long, arcuate or divergent; perigynia short-stipitate; style generally straight or nearly so .... 123. *C. comosa*
1. Teeth short, less than 1 mm long, straight, not divergent; style becoming flexuous or contorted .... 124. *C. hystricina*

47. PALUDOSAE

One species .... 125. *C. atherodes*

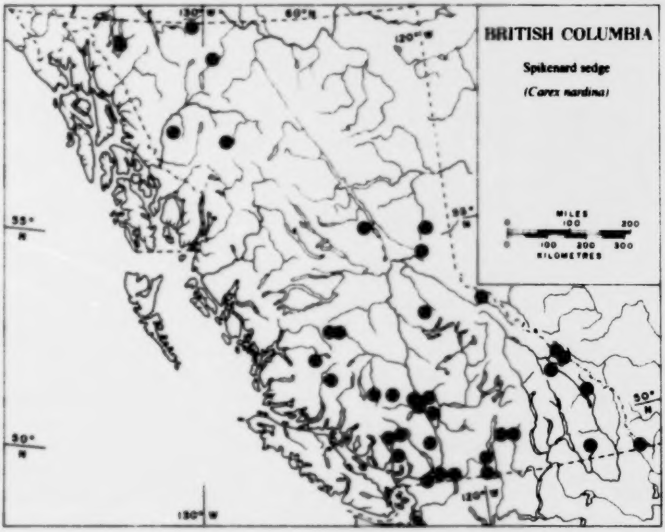
48. VESICARIAE

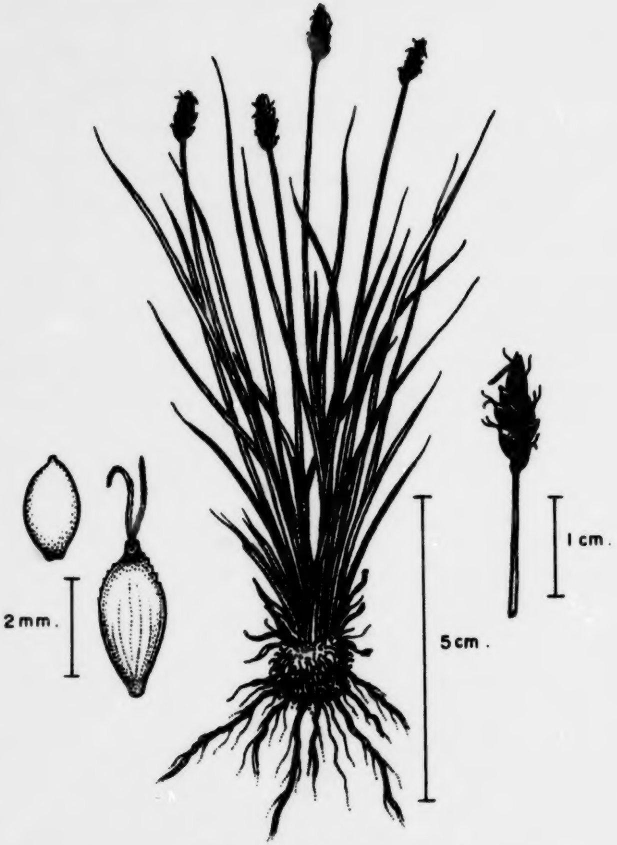
1. Stigmas normally 2; achenes lenticular; 3-5 mm long, obscurely few-nerved, the beak emarginate or shallowly bidentulate .. 126. *C. saxatilis*
1. Stigmas normally 3; achenes trigonous; perigynia 4-10 mm long.
   2. Bracts not more than a few times exceeding the inflorescence; perigynia not reflexed (except rarely the lower in *C. rostrata*)
      3. Rootstocks short-creeping, not sending forth long, slender, horizontal stolons; lower sheaths becoming strongly filamentose; perigynia 6-10 mm long, tapering into the beak, teeth 0.75-1.5 mm long .... 127. *C. exsiccata*
      3. Rootstocks sending forth long, slender, horizontal stolons; lower sheaths not breaking and becoming filamentose; perigynia spreading or squarrose at maturity.
         4. Staminate spikes usually 1, often with 1 or 2 smaller at the base; perigynia purplish-black; pistillate scales purplish-black, except for the white-hyaline tip; leaf blades rather sparingly septate-nodulose .... 128. *C. membranacea*
         4. Staminate spikes 2-4; perigynia yellowish-green or light brownish; scales lighter-coloured; leaf blades strongly septate-nodulose .... 129. *C. rostrata*
   2. Bracts several times longer than the inflorescence; lower perigynia reflexed to widely spreading .... 130. *C. retrorsa*

1. NARDINAE

1. ***Carex nardina*** **Fries** **Spikenard sedge**

Densely caespitose. *Culms* up to 15 cm tall, equalling or slightly exceeding the leaves, wiry, slender, smooth, yellowish-brown at the base, old leaves very conspicuous. *Leaves* 1 or 2 to a culm, up to 10 cm long, hair-like, stiff, erect or curving, roughened. *Spike* solitary, staminate above, 5-15 mm long; *bractless; scales* acute or obtusish, ovate or obovate, brownish, centre straw-coloured, margins hyaline, wider than and about the same length as the perigynia; *perigynia* 5-15, 3.5-4.5 mm long, erect-appressed, biconvex or plano-convex, lanceolate, whitish, obscurely striate on both faces, glabrous, sharp-edged, sparsely serrulate above, round-tapering to a minute, hyaline beak; *achenes* lenticular or trigonous, loosely enveloped, brown, apiculate, jointed with the short style; *stigmas* 2 or 3.


BRITISH COLUMBIA
Spikenard sedge
(Carex nardina)
MILES
0 100 200
0 100 200 300
KILOMETRES
130° W
60° N
120° W
55° N
50° N
50° N
120° W
130° W



Spikenard sedge *(Carex nardina)*

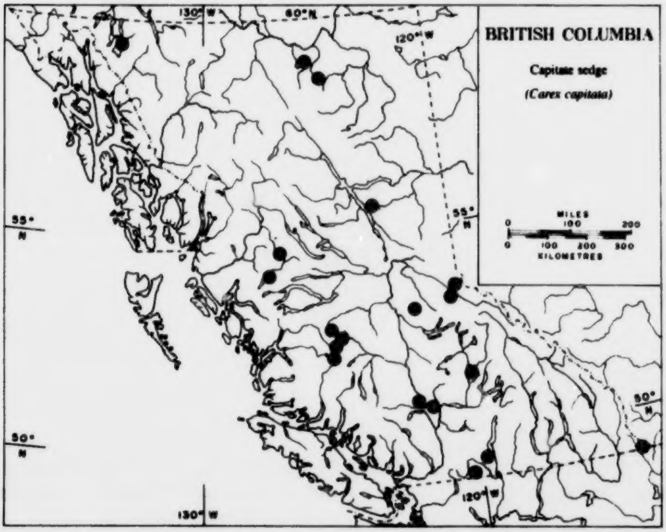
Dry alpine slopes; circumboreal in arctic regions, south in western North America to Washington, Idaho, Wyoming, Colorado, Utah and Nevada; general throughout the interior of British Columbia.

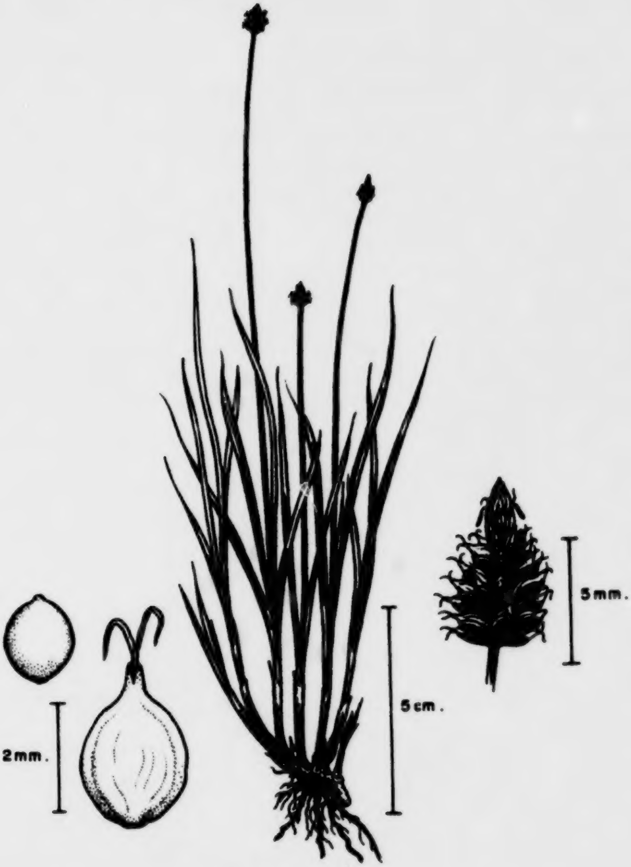
2. CAPITATAE

2. *Carex capitata* L. **Capitate sedge**

Loosely caespitose, rootstocks short-creeping, scaly, purplish-red. *Culms* up to 37 cm tall, slender, wiry, purplish-red at base, old leaves persistent. *Leaves* usually 2-4 to a culm on the lower third, blades involute, filiform, stiff, pale-green, roughened. *Spike* solitary, staminate above, globose or ovoid, generally brownish-green; *bracts* lacking; *pistillate scales* orbicular to broadly ovate, obtuse, dark-brown with broad hyaline margins and apex, shorter and narrower than the perigynia; *perigynia* ascending or spreading, plano-convex, ovate, up to 3.5 mm long, nerveless ventrally, finely few-nerved dorsally, sharp-edged, sessile, abruptly contracted into a smooth, short, dark, beak; *achenes* lenticular; *stigmas* 2, *rachilla* bristle-like shorter than the achene.

Alpine summits, sometimes in alpine meadows; Alaska to Greenland, locally southward to California and northern Mexico, Nevada, Al-


BRITISH COLUMBIA
Capitate sedge
(Carex capitata)
MILES
0 100 200
0 100 200 300
KILOMETRES
130°W
60°N
120°W
55° N
50° N
55° N
50° N
120°W
130°W



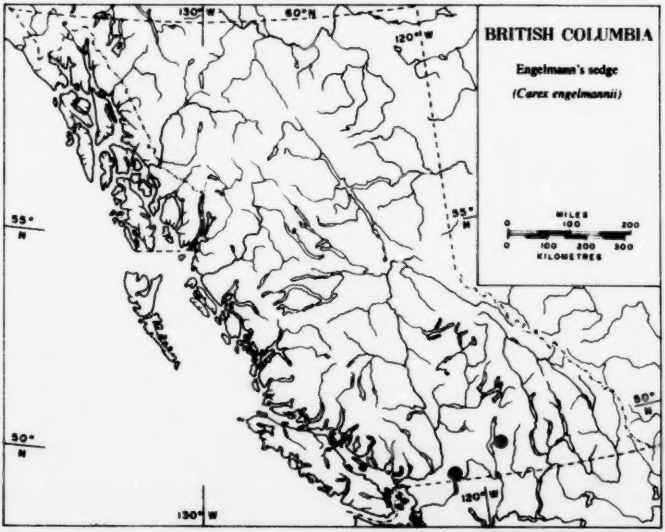
Capitate sedge *(Carex capitata)*

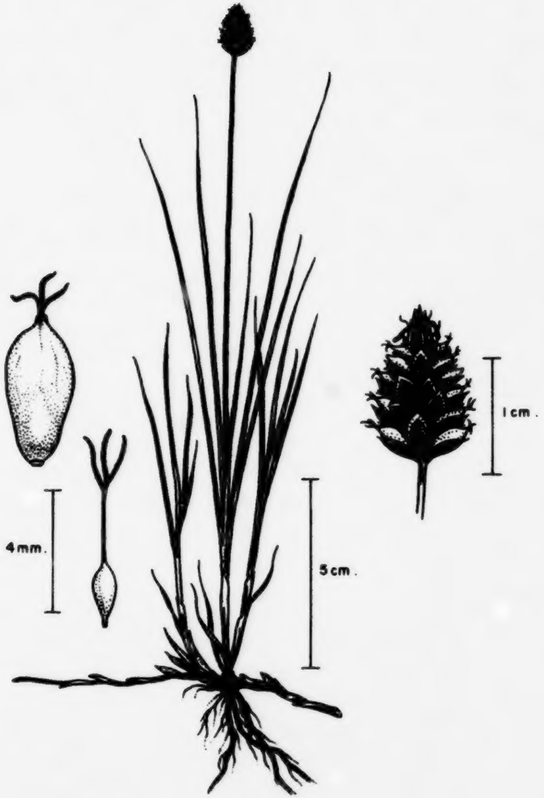
berta and New Hampshire; northern Eurasia; southern South America; scattered through the interior of British Columbia.

3. INFLATAE

3. ***Carex engelmannii*** **Bailey** **Engelmann's sedge**

Caespitose, rootstocks stoloniferous, slender, brown, scaly. *Culms* slender, stiff, up to 2 dm tall, base brown, clothed with dried-up leaves. *Leaves* 5-9 to a culm, clustered on the lower fourth, stiff, smooth or nearly so, involute-filiform, sheaths dorsally striate, truncate at the mouth. *Spike* solitary, staminate above, ovoid, densely flowered, 1.0-1.5 cm long, staminate portion inconspicuous, perigynia spreading at maturity; *bracts* lacking; *pistillate scales* ovate, acute or cuspidate, 1-nerved, glossy, reddish-brown to straw-coloured or brown, centre lighter, margins hyaline, mostly slightly shorter than the perigynia; *perigynia* ovoid, membranous, inflated, about 5 mm long, nerveless, smooth, shining, straw-coloured or brown, more or less stipitate, tapering to a minute beak; *achenes* oblong-ovoid, trigonous, loosely enveloped by the perigynium; *stigmas* 3, rachilla slender, exceeding the achene.


BRITISH COLUMBIA
Engelmann's sedge
(Carex engelmannii)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
130° W
120° W



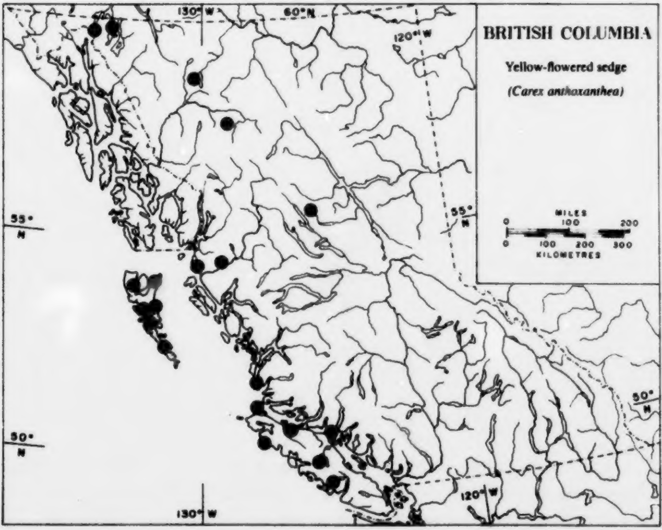
Engelmann's sedge *(Carex engelmannii)*

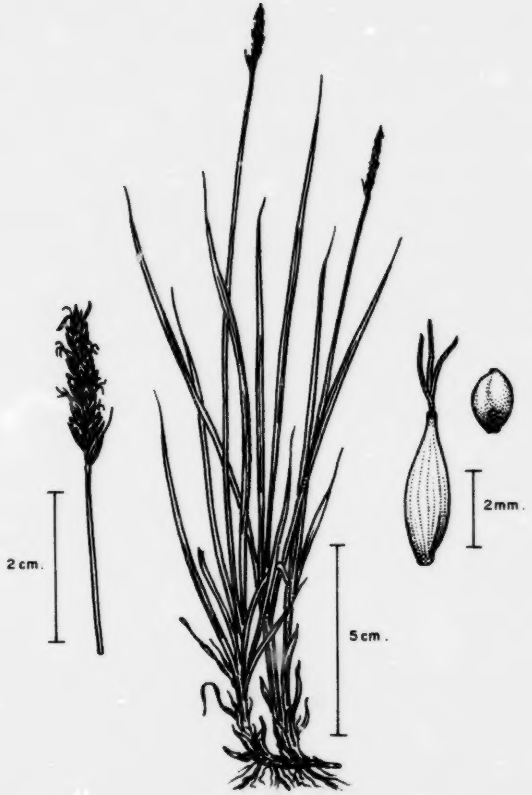
Open sunny slopes at high elevations; Cascade Mountains in British Columbia south to California, Nevada, Colorado, Wyoming, and Utah; known with us only from extreme south-central British Columbia.

4. CIRCINATAE

4. *Carex anthoxanthea* Presl **Yellow-flowered sedge**

Rootstocks long, slender, light yellowish-brown, scaly. *Culms* up to 4 dm tall, obtusely triangular, roughened above, light yellowish-brown at base, leaves of the previous year conspicuous. *Leaves* 2-4 to a culm, from near the base, blades 4-40 cm long, about 2 mm wide, flat, erect or recurved, roughened at the attenuate apex. *Spike* solitary, usually pistillate, sometimes staminate above or staminate throughout, 1-3 cm long; *bractless*; lower *scales* cuspidate or awned, the upper obtuse, chestnut brown with a 1-3-nerved, green centre; *perigynia* few, 4 mm long; fusiform, erect-ascending, obscurely compressed-triangular, yellowish-green, membranous, smooth, many-nerved, stipitate, beak about 1 mm long, chestnut-brown-tinged, obliquely cleft; *achenes* about 1.5 mm long, triangular, closely enveloped, apiculate, jointed with the flexuous style; *stigmas* 3, rarely 2, brownish.


130° W
60°N
120° W
BRITISH COLUMBIA
Yellow-flowered sedge
(Carex anthoxanthea)
55° N
MILES
0 100 200
0 100 200 300
KILOMETRES
50° N
130° W
120° W

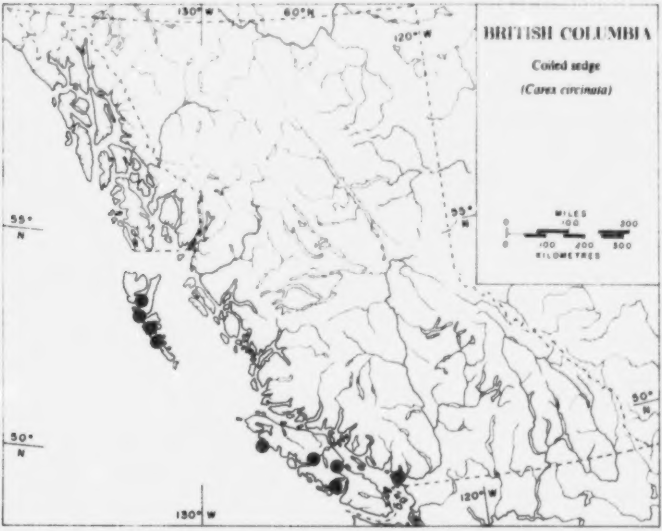


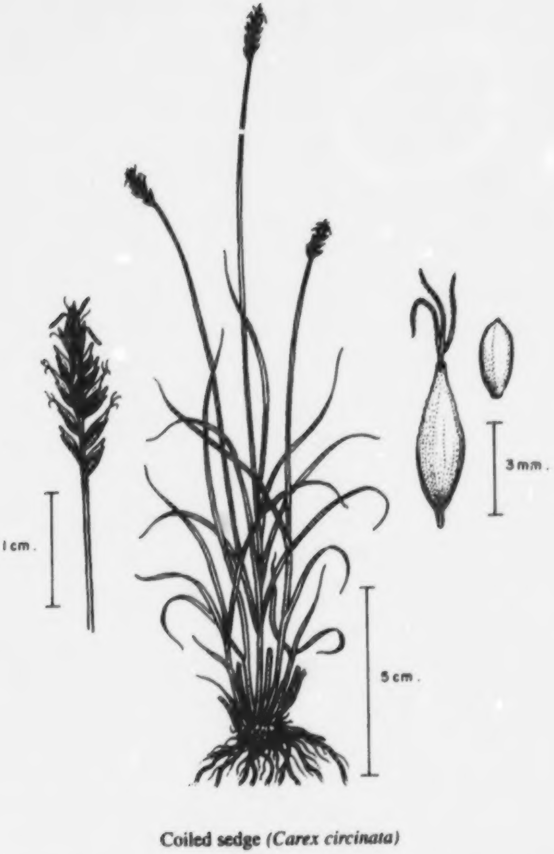
Yellow-flowered sedge *(Carex anthoxanthea)*

Grassy and boggy places; from sea-level to above timber line, British Columbia to Alaska, essentially a coastal species. In British Columbia, the species is known along the coast from Vancouver Island northward and from occasional inland occurrences in the north.

5. *Carex circinata* C.A. Meyer **Coiled sedge**

Densely caespitose; rootstocks slender, short, brownish. *Culms* up to 15 cm tall, light-brownish-tinged at the base, old leaves conspicuous, erect or recurved, smooth or somewhat roughened. *Leaves* several to a culm, blades 2-10 cm long, involute-filiform, stiff, light-green, roughened towards the attenuate apex. *Spike* solitary, staminate above, 15-25 mm x 3-4 mm; *bracts* lacking; lowest scales cuspidate, the upper obtuse, all reddish, margins and apex white-hyaline, centre straw-coloured, 1-3 nerved; *perigynia* few, 4.5-6 mm long, erect-ascending, obscurely compressed triangular, membranous, straw-coloured, smooth, striate, stipitate, beak about as long as the body, serrulate, reddish-tinged, apex white-hyaline, obliquely cleft; *achenes* about 2.5 mm long, obtusely triangular, closely enveloped, apiculate, jointed with the straight deciduous style; *stigmas* 3, rarely 2.


130° W
60° N
120° W
BRITISH COLUMBIA
Coiled sedge
(Carex circinata)
MILES
0 100 200
0 100 200 300
KILOMETRES
55° N
55° N
50° N
50° N
120° W
130° W



Coiled sedge *(Carex circinata)*

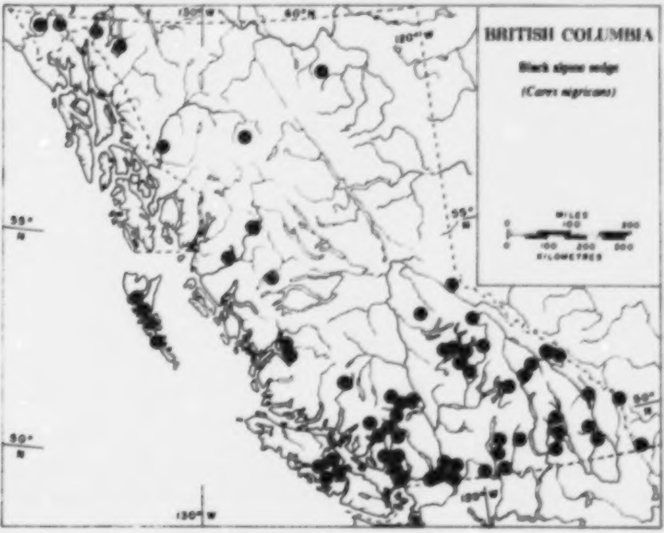
Rocky bluffs and grassy slopes near the coast; Alaska to Washington; in British Columbia, it occurs generally, but not commonly, along the coast.

5. CALLISTACHYS

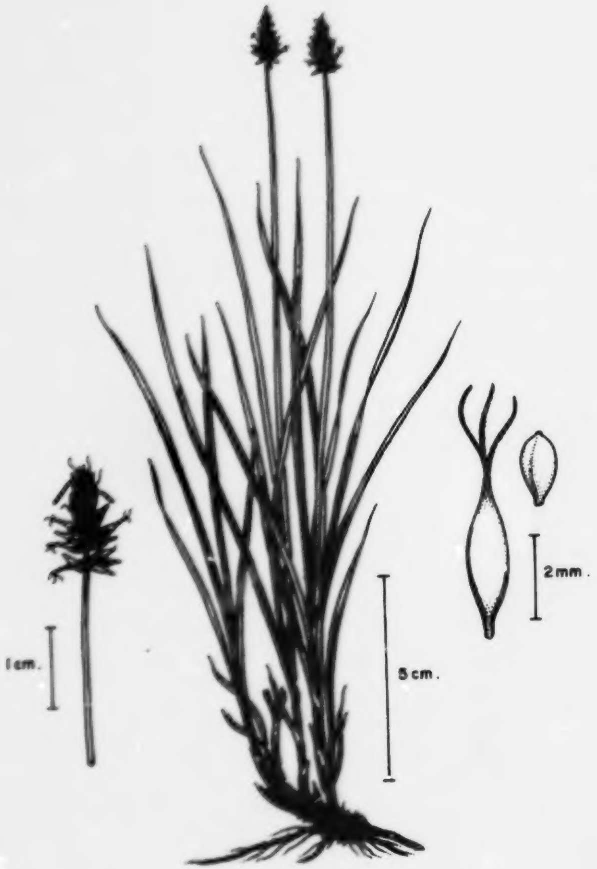
6. *Carex nigricans* C.A. Meyer **Black alpine sedge**

Caespitose, rootstock stout, creeping, woody. *Culms* up to 30 cm tall, usually exceeding the leaves, stiff, clothed with dried leaves at base. *Leaves* 4-9 to a culm, blades well developed, 4-10 cm long, about 2 mm wide, flat or channeled, stiff. *Spike* solitary, staminate above, occasionally entirely staminate or pistillate, oblong or oblong-ovoid, staminate flowers conspicuous; *bracts* lacking; *staminate scales* persistent; *pistillate scales* much shorter than the perigynia, dark-brown, broadly ovate, deciduous; *perigynia* numerous, appressed in anthesis, spreading and reflexed at maturity, early deciduous, lanceolate to narrowly ovate, 3.5-4.5 mm long, nerveless, stipitate, tapering into a smooth, short, brown beak; *achenes* trigonous, oblong-elliptic, short-stipitate; *stigmas* 3.

Alpine and subalpine slopes and meadows, tundra; Alaska south to Colorado and California; Siberian coast; common throughout British Columbia.



BRITISH COLUMBIA
Black alpine sedge
(Carex nigricans)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
130° W
120° W

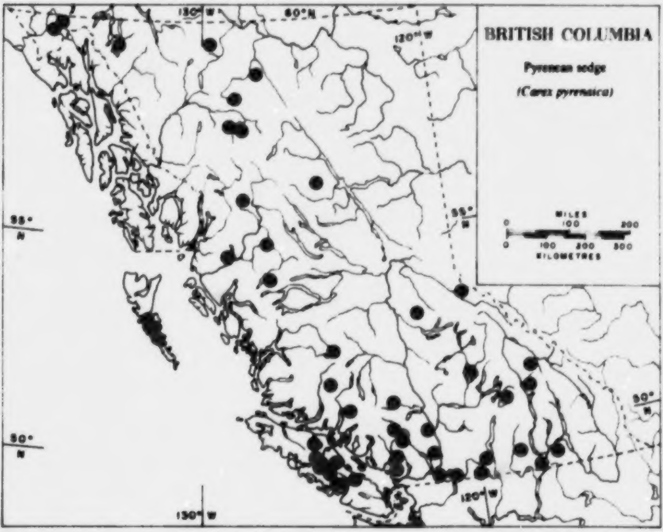


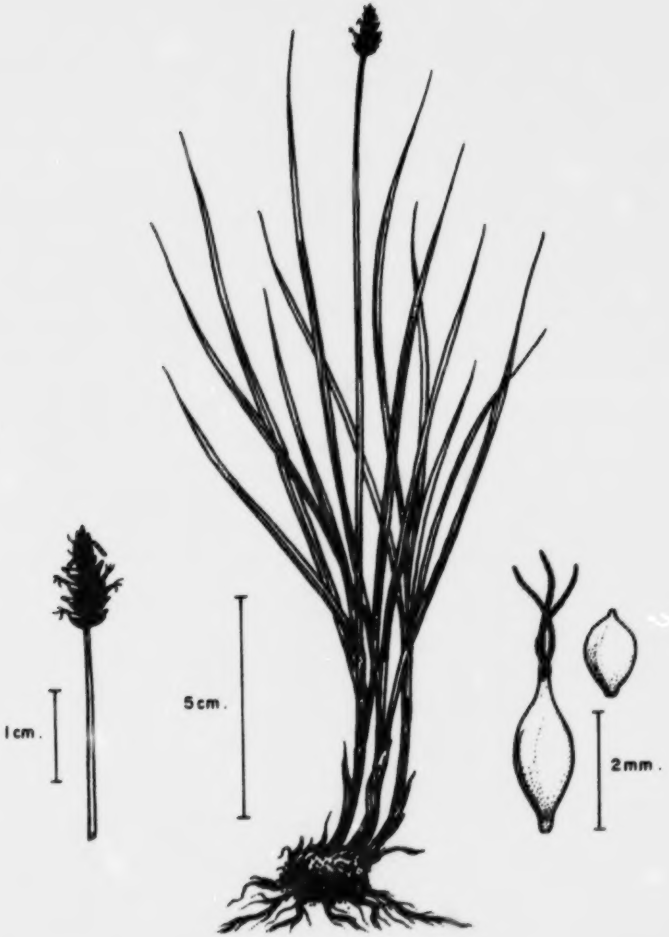
Black alpine sedge (*Carex nigricans*)

7. *Carex pyrenaica* Wahl. Pyrenean sedge

Densely caespitose. *Culms* up to 25 cm tall, equalling or exceeding the leaves, erect, slender, wiry, yellowish-brown at base, old sheaths persistent, conspicuous. *Leaves* commonly only 2-4 with well-developed blades to a culm, up to 10 cm long and 1.5 mm wide, hair-like, deeply channeled. *Spike* solitary, staminate above, linear-oblong, as much as 20 mm long, staminate portion small, inconspicuous; *bracts* none; *pistillate scales* ovate, obtuse, dark-brown to blackish-chestnut; margins narrow, hyaline; centres lighter, shorter and somewhat wider than the perigynia; *perigynia* 10 to many, jointed to the rachis and reflexed at maturity, lanceolate or ovate-lanceolate, 3-4 mm long, nerveless, glabrous, glossy, dark-brown to straw-coloured, stipitate, tapering into a smooth, hyaline beak; *achenes* trigonous, oblong-ovoid, short-stipitate; *stigmas* 3.

Open, rocky or grassy, alpine slopes; Alaska and Mackenzie region, south in the mountains to Oregon, Utah and Colorado; Eurasia; general throughout British Columbia.

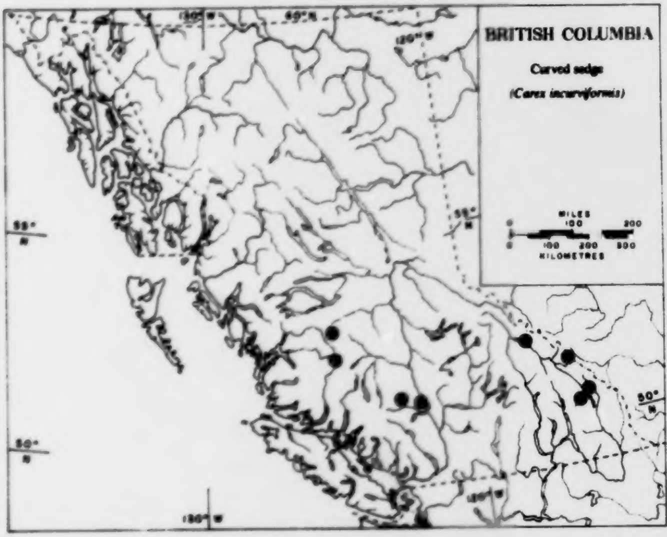

BRITISH COLUMBIA
Pyrenean sedge
(Carex pyrenaica)
130°W
60°N
120°W
55°N
55°N
50°N
50°N
120°W
130°W
MILES
0
100
200
0
100
200
300
KILOMETRES

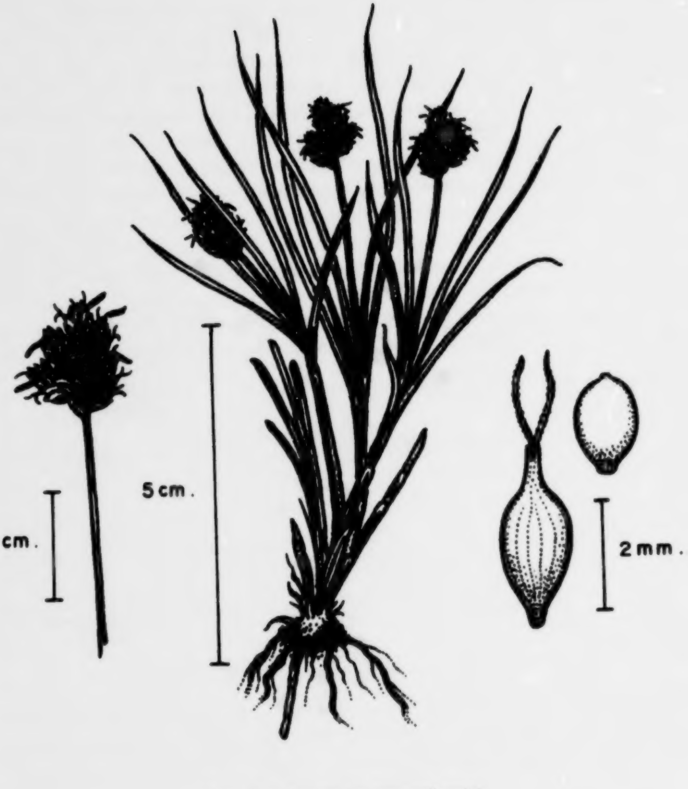


Pyrenean sedge *(Carex pyrenaica)*

8. ***Carex incurviformis*** **Mackenzie** **Curved sedge**

Loosely caespitose, rootstocks long, dark, scaly. *Culms* up to 6 cm tall, shorter than the leaves, erect or curved, brownish-tinged, fibrillose at the base. *Leaves* 4-7 to a culm, from near the base, 0.75-1.5 mm wide, flattened at the base, involute above, thick, light-green, stiff. *Spikes* few, staminate above, densely aggregated into a compact head 6-9 mm long; *bractless*; *scales* acute or acuminate, brown, centres lighter, margins hyaline, shorter than the perigynia; *perigynia* few, 3.25 mm long, ascending or spreading, plano-convex, thick, ovoid, somewhat inflated, shining, membranous, narrowly sharp-edged ventrally, several-nerved on both surfaces, dark chestnut-brown, short-stipitate, beak about 1 mm long, bidentulate; *achenes* 1.5 mm long, lenticular, yellowish-brown, apiculate, jointed with the deciduous style; *stigmas* 2.


BRITISH COLUMBIA
Curved sedge
(Carex incurviformis)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
130° W
120° W



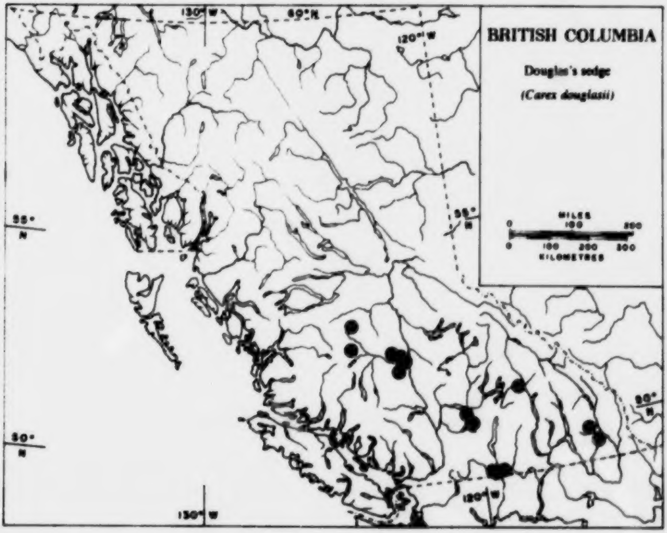
Curved sedge *(Carex incurviformis)*

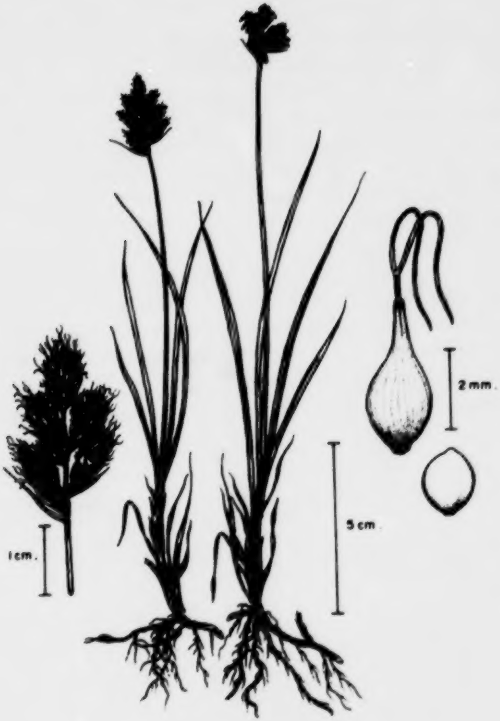
Rocky alpine ledges and meadows; Yukon, British Columbia and Alberta, south to Colorado in the Rocky Mountains; rare in the interior of British Columbia.

7. DIVISAE

9. *Carex douglasii* Boott **Douglas's sedge**

Rootstocks slender, long-creeping, brown with fibrillose scales. *Culms* arising singly or few together, up to 3 dm tall, slender but stiff, smooth, usually exceeding the leaves, clothed with old leaves. *Leaves* 3-8 to a culm, clustered near the base, involute above but somewhat flattened or channeled toward the base, 5-15 cm long, roughened toward the attenuate apex. Plants usually dioecious. *Staminate inflorescence* of many spikes aggregated into an oblong-orbicular to linear-oblong head; *pistillate inflorescence* of many aggregated but distinguishable spikes forming a suborbicular to oblong head 1.5-5.0 cm long; *bracts* inconspicuous, the lowest cuspidate, sometimes short awn-tipped; *scales* elongate, lanceolate to ovate-lanceolate, acuminate, straw-coloured with hyaline margins, the green centre 3-nerved; *perigynia* plano-convex, ovate-lanceolate, about 4 mm long, covered by the scales, closely appressed, straw-coloured to brownish, more or less striate on both sur-


BRITISH COLUMBIA
Douglas's sedge
(Carex douglasii)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W



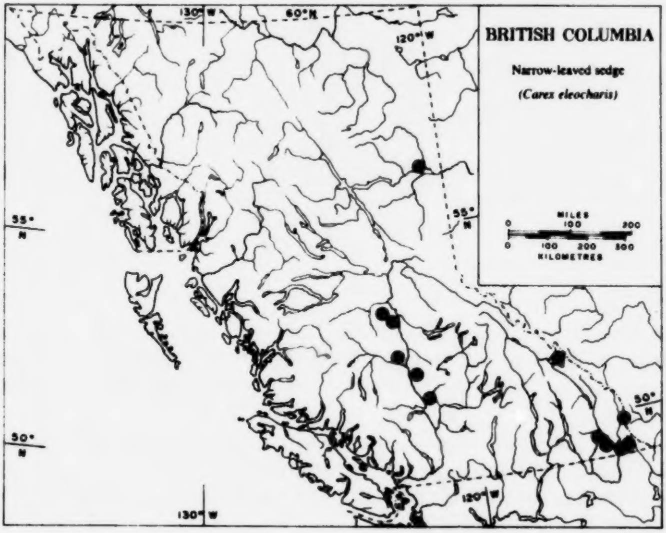
Douglas's sedge *(Carex douglasii)*

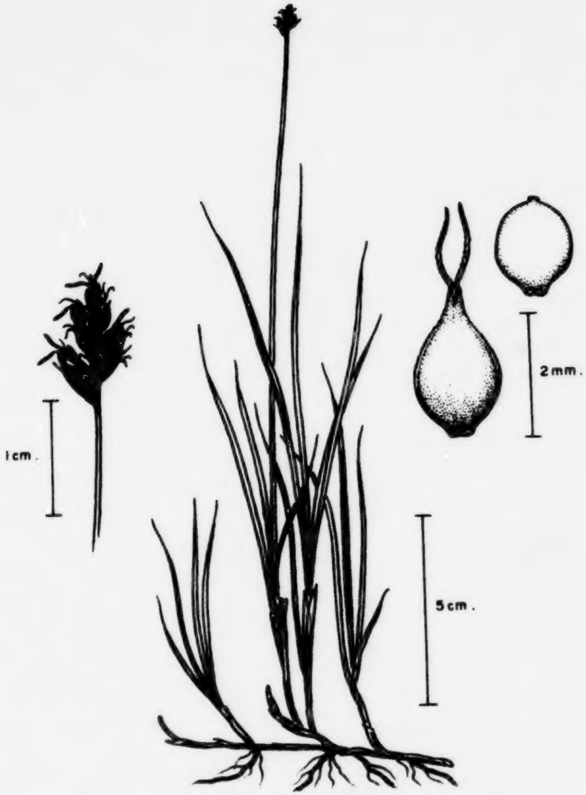
faces, round-tapering to a stipitate base, tapering into a serrulate, at length bidentulate beak nearly 2 mm long; *achenes* lenticular, obovate, brown, glossy; style and 2 *stigmas* very long and conspicuous at flowering time.

In a variety of open situations, often alkaline, at low to moderate altitudes; British Columbia to Manitoba, south to California, New Mexico, Nebraska, Iowa; in British Columbia found south from about Lat. 55° N., east of the Coast Mountains.

10. *Carex eleocharis* Bailey **Narrow-leaved sedge**

Rootstocks very slender, long-creeping. *Culms* up to 15 cm tall, stiff, arising singly or few together, smooth, obtusely angled. *Leaves* 1-4 to a culm, on the lower third, stiff, caniculate-flattened, 1.0-1.5 mm at base, involute and much narrower above. *Spikes* densely aggregated into a solitary ovoid to linear head, 5-20 mm long, the staminate flowers conspicuous, spikes scarcely distinguishable, staminate above, perigynia very few; *bracts* ovate, cuspidate, short; *scales* ovate-orbicular, about the length of, but often wider than, the perigynia, obtuse to cuspidate, chestnut- to light-brown, margins hyaline; *perigynia* appressed-ascending, plano-convex, ovate-orbicular, coriaceous, about 3 mm long, nerveless or nearly so ventrally, many-striate and high-convex dorsally, blackish at maturity, contracted into a serrulate beak one-fourth to one-third the length of the body; *achenes* lenticular, orbicular-obovate, 1.75 mm long, apiculate, jointed with the short style; *stigmas* 2. (*C. stenophylla* Am. auth.)


BRITISH COLUMBIA
Narrow-leaved sedge
(Carex eleocharis)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
50° N
120° W
130° W
55° N
50° N

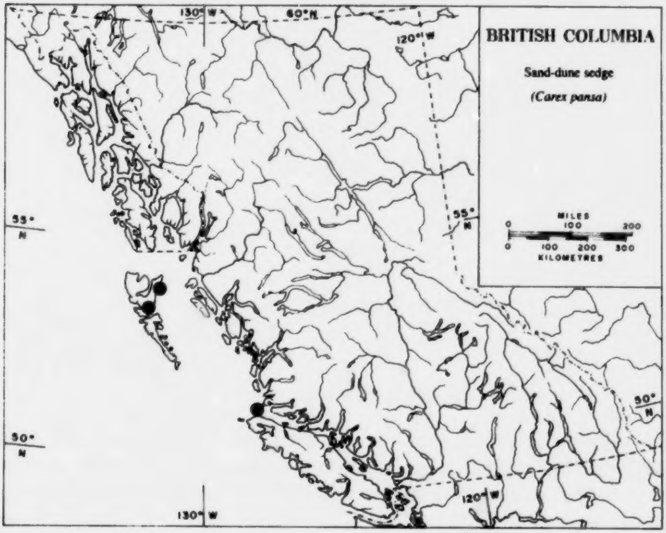


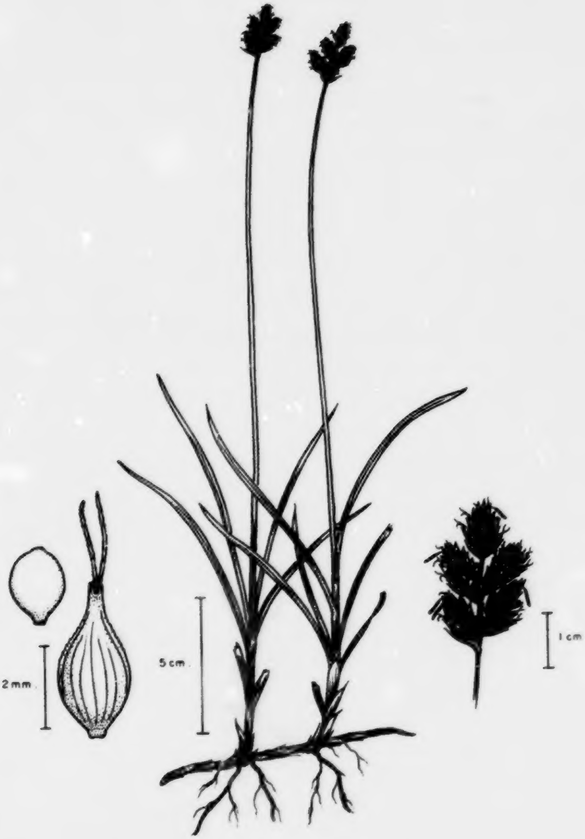
Narrow-leaved sedge *(Carex eleocharis)*

Dry to somewhat moist plains and foothills; Alaska and Yukon, southward to British Columbia, Alberta, Manitoba, Iowa, Nebraska, and irregularly to Idaho, Oregon, Nevada and Arizona; scattered throughout the dry interior of British Columbia.

11 *Carex pansa* Bailey **Sand-dune sedge**

Rootstocks long, stout, brownish-black, scaly, fibrillose. *Culms* up to 3 dm tall, arising singly, stiff, roughened on the angles, dark at the base, clothed with old leaves. *Leaves* all basal, about 3 to a culm, 1-3 mm broad, flat or channeled at the base, ascending to recurved-spreading, stiff, nodulose, roughened towards the tip and on the margins, shorter than the culms. *Spikes* numerous, staminate above, in a head 7-10 mm long; *lowest bract* scale-like or somewhat prolonged; *scales* acuminate to cuspidate, dark chestnut-brown, shining, midvein lighter, margins broadly white-hyaline; *perigynia* 3.5-4.5 mm long, concealed by the scales, appressed-erect, plano-convex, coriaceous, yellowish-brown or brownish-black, many-nerved dorsally, essentially nerveless ventrally, shining, margins sharp, serrulate above, stipitate, beak about 1 mm long, serrulate, bidentulate; *achenes* 1.5 mm long, lenticular, stipitate, apiculate, jointed with the style; *stigmas* 2. (*C. arenicola* Schmidt ssp. *pansa* Koyama and Calder)


BRITISH COLUMBIA
Sand-dune sedge
(Carex pansa)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W

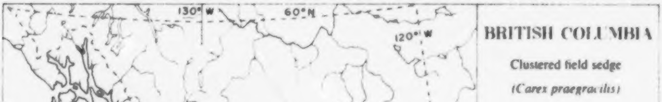


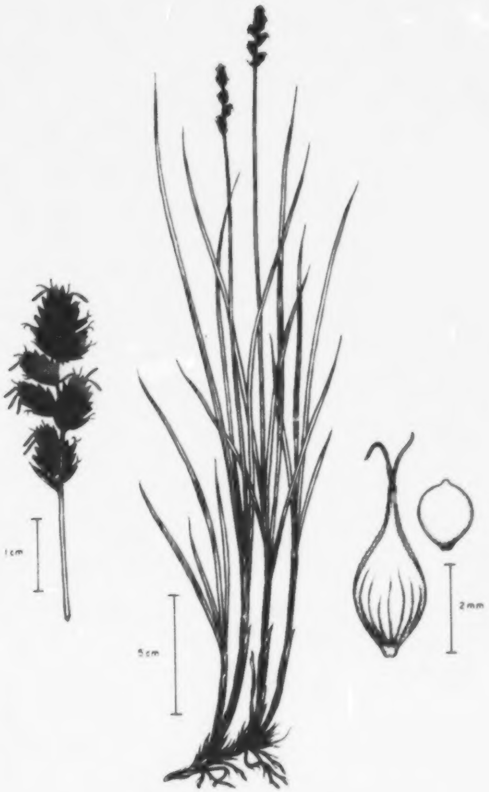
Sand-dune sedge *(Carex pansa)*

Coastal sands; British Columbia to California; Japan, eastern Asia; in British Columbia, known only from the Queen Charlotte Islands, south to northern Vancouver Island.

12. *Carex praegracilis* Boott **Clustered field sedge**

Rootstocks long-creeping, thick, blackish. *Culms* arising singly in small clumps, up to 7.5 dm tall, sharply triangular, usually roughened above, taller than the leaves. *Leaves* 2-5, borne near the base of the culm, flattened or somewhat channeled, up to 3 mm wide. *Spikes* 5-15, densely aggregated into a linear-oblong or oblong-ovoid head 1-5 cm long, the lower spikes sometimes separate, staminate above, (sometimes almost entirely staminate or pistillate), the staminate flowers inconspicuous; *bracts* lacking or 1-2, up to 3 cm long, upper scale-like; *scales* ovate, acuminate, or cuspidate, light chestnut, margins conspicuously hyaline, midrib pale; *perigynia* about 10 to a spike, concealed by the scales, plano-convex, ovate to ovate-lanceolate, sharp-margined, 3-4 mm long, brownish-black at maturity, coriaceous, dull, flat and nerveless ventrally, rounded and lightly several-nerved dorsally, short-stipitate, tapering into a serrulate beak half the length of the body or more, the orifice with overlapping hyaline edges; *achenes* lenticular, obovoid; *stigmas* 2.


130° W
60° N
120° W
BRITISH COLUMBIA
Clustered field sedge
(Carex praegracilis)
55° N
55° N
MILES
0
100
200
0
100
200
300
KILOMETRES
50° N
50° N
120° W
130° W



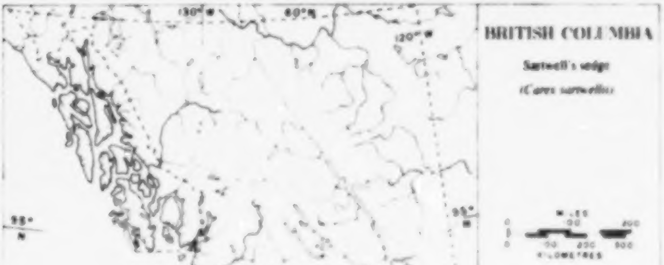
Clustered field sedge *(Carex praegracilis)*

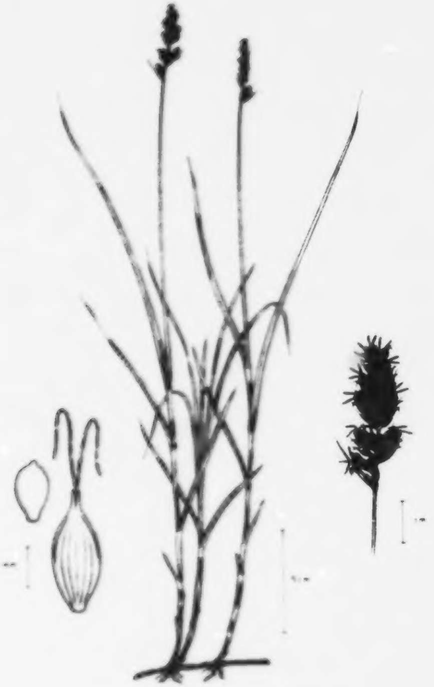
Open, usually moist, habitats (often alkaline), from low to fairly high altitudes; Yukon to Manitoba, south to California, Mexico, Texas, Oklahoma, Kansas, Iowa, Minnesota and Michigan; general in the southern interior of British Columbia, occasional northward and on the coast.

8. INTERMEDIAE

13. *Carex sartwellii* Dewey **Sartwell's sedge**

Rootstocks wide-creeping, tough, black, fibrillose. *Culms* single or in small clumps, up to 8 dm tall, rather stiff, much longer than the leaves, roughened and sharply triangular above, conspicuously aphyllopodic. *Leaves* about 3 to a culm, widely separated, up to 4 mm wide, flat, upper sheaths septate-nodulose, green-striate ventrally to the base of the blade. *Spikes* numerous, staminate above, closely aggregated into an elongate head up to 6 cm long, the upper scarcely distinguishable, staminate flowers usually conspicuous; *bracts* broadly ovate, hyaline; *scales* ovate-triangular, slightly shorter and narrower than the perigynia, dull reddish-brown, margins hyaline, midrib green; *perigynia* thick, plano-convex, ovate-orbicular, 3-4 mm long, straw-coloured, or light brownish, finely several-nerved on both surfaces, serrulate above the middle, abruptly contracted into a serrulate, minutely bidentate beak, about one-fourth the





Sartwell's sedge (*Carex sartwellii*)

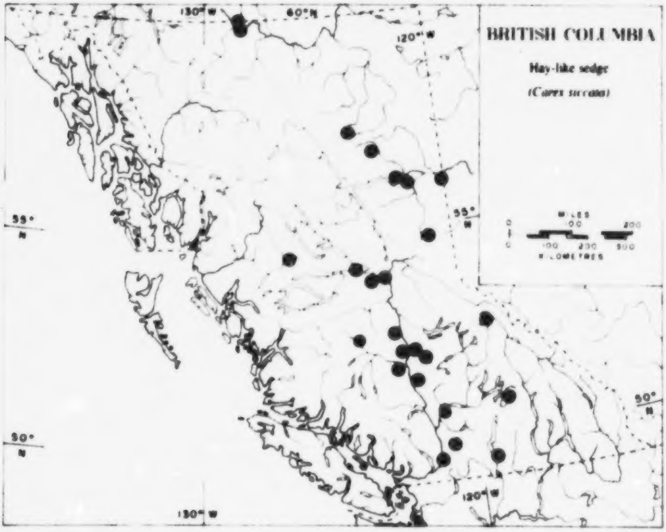
length of the body; *achenes* lenticular, oblong-ovoid, about 1.5 mm long; *stigmas* 2.

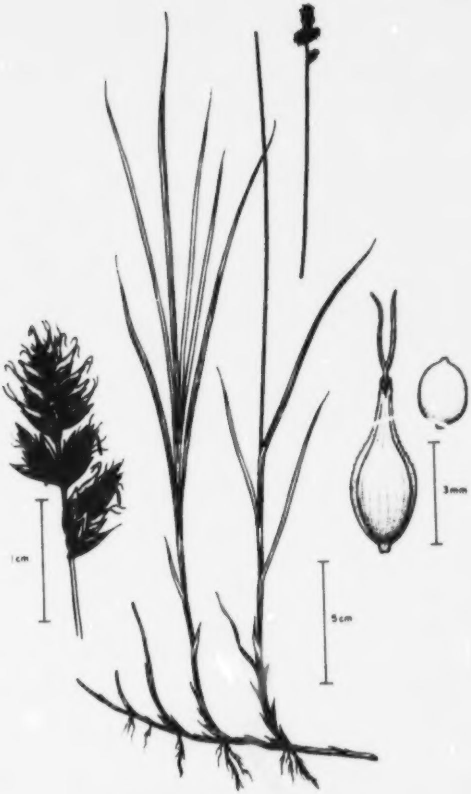
Wet, often alkali areas, sometimes grassy woods, at lower to intermediate elevations; British Columbia to New York, south to Colorado, Missouri and Illinois; found in central and southeastern British Columbia.

9. ARENARIAE

14. ***Carex siccata*** **Dewey** **Hay-like sedge**

Rootstocks slender, long-creeping, thick, clothed with brown, fibrillose scales. *Culms* arising 1-3 together, up to 9 dm tall, exceeding the leaves, roughened on the sharp angles above, clothed with the dried leaves of the previous year. *Leaves* flat, 1.5-3.0 mm wide, stiff. *Spikes* 4-12, in a linear oblong-head, up to 4 cm long, the upper aggregated, the lower more or less separated, most pistillate above, but the lowest generally pistillate and the middle often staminate, perigynia appressed-ascending; *bracts* scale-like, with broad, scarious margins; *scales* obtusish to acute, light-reddish- or yellowish-brown, margins and apex silvery-white hyaline, centre green, 3-nerved; *perigynia* plano-convex, oblong-lanceolate, 3-6 mm long, coriaceous, pale green or reddish-brown-tinged, narrowly green-margined, serrulate from below the middle, strongly many-nerved on both surfaces, spongy at the base, rather ab-


130° W
60° N
120° W
BRITISH COLUMBIA
Hay-like sedge
(Carex siccata)
55° N
55° N
MILES
0
100
200
0
100
200
300
KILOMETRES
50° N
50° N
130° W
120° W



Hay-like sedge *(Carex siccata)*

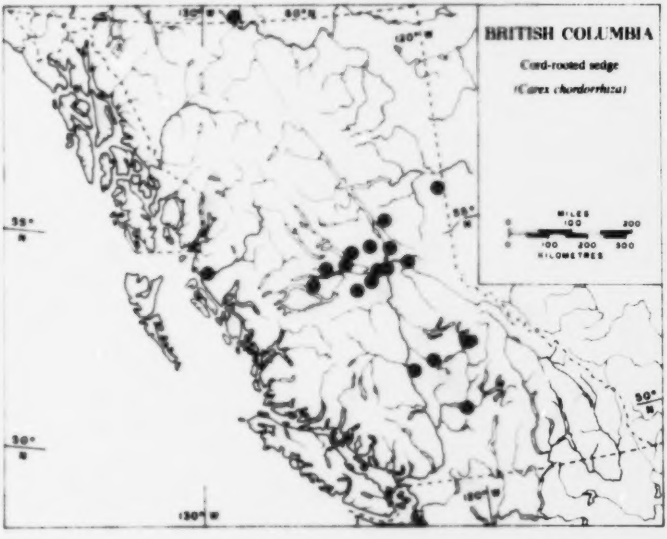
ruptly contracted into a serrulate, bidentate beak about the length of the body; *achenes* lenticular, brownish, 2 mm long; *stigmas* 2. (*C. foeenea* Willd.)

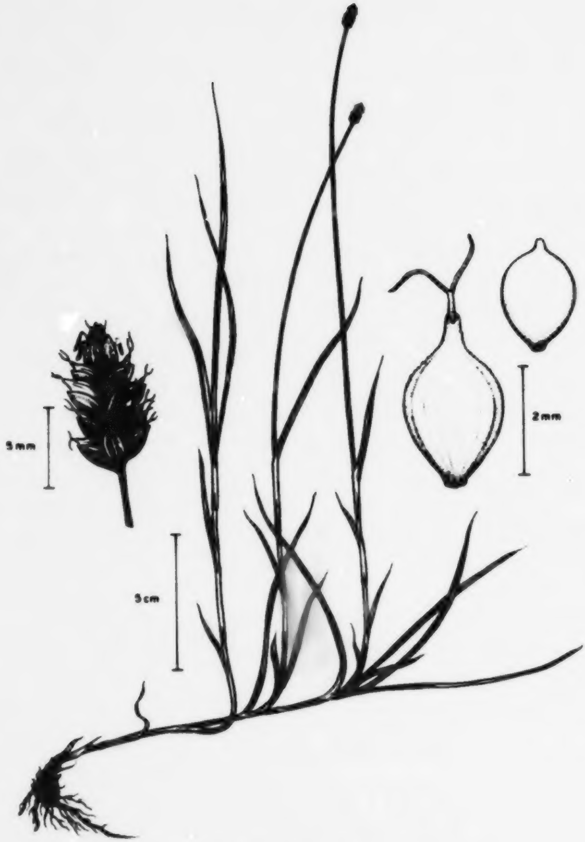
Usually in dry, open situations at mid to lower altitudes; southern Mackenzie to Maine, southward to Washington, Wyoming, Utah, and Arizona; general in the eastern half of British Columbia.

10. CHORDORRHIZAE

15. ***Carex chordorrhiza*** **L. f.** **Cord-rooted sedge**

Culms arising singly, flattened-triangular, old culms prostrate bearing fertile culms from the upper nodes, sterile culms from the lower nodes, up to 3 dm long. *Leaves* on fertile culms, 1 or 2 on the lower part, 1-5 cm x 1 mm; sterile culms leafy, geniculate, at length prostrate, blades up to 25 cm long, scabrous, caniculate, light-green, attenuate. *Spikes* staminate above, compacted into a head, 5-12 mm x 3.7 mm; *bracts* lacking; *scales* acute or acuminate, chestnut-brown, margins and apex hyaline, lighter centre, concealing the perigynia; staminate flowers conspicuous; *perigynia* 2.5-3.5 mm long, erect-ascending or spreading, thick-plano-convex, coriaceous, yellowish-brown or brownish, shiny, strongly nerved, sharp edged, spongy at the base, stipitate; beak very short, serrulate, emarginate, hyaline-tipped; *achenes* about 2 mm long, lenticular, closely enveloped, brownish, jointed with the short style; *stigmas* 2.


BRITISH COLUMBIA
Cord-rooted sedge
(Carex chordorrhiza)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
50° N
50° N
130° W
120° W



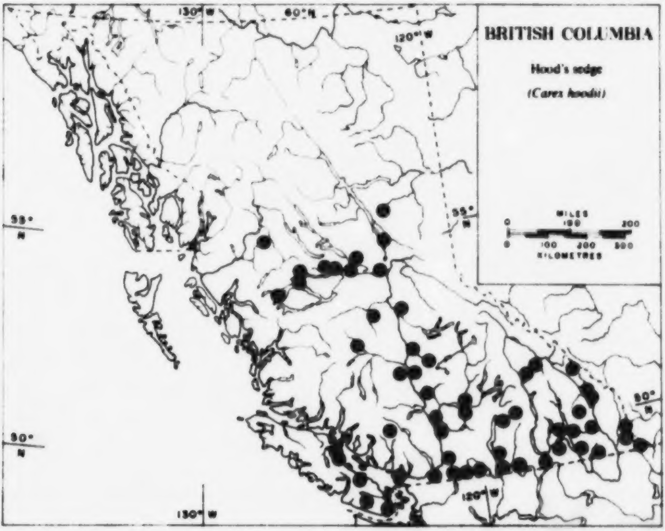
Cord-rooted sedge *(Carex chordorrhiza)*

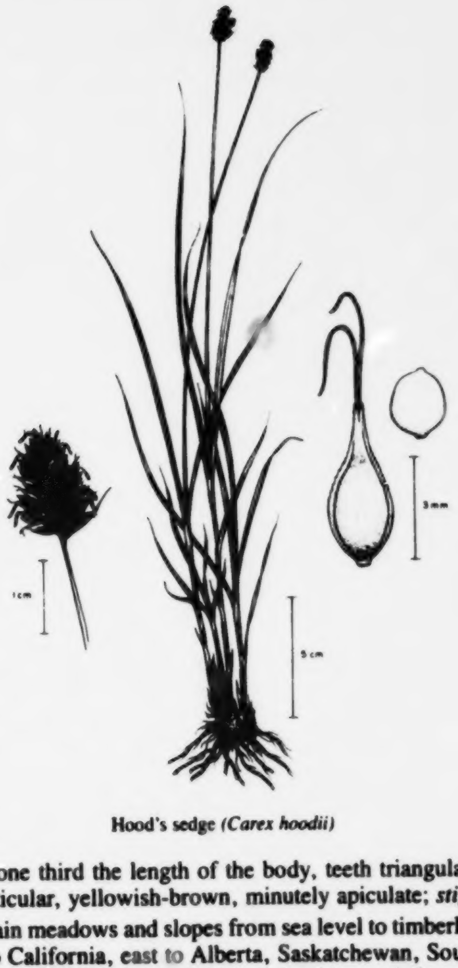
Lake shores, sphagnum bogs and muskegs; circumboreal, Alaska to Labrador and Newfoundland, southward to northern British Columbia, Saskatchewan, Iowa, Indiana, New York, and Maine; mostly north of Lat. 54° N in British Columbia.

11. BRACTEOSAE

16 *Carex hoodii* Boott **Hood's sedge**

Densely caespitose, rootstocks very short, stout, black, fibrillose. *Culms* up to 8 dm tall, slender, sharply triangular, roughened on the angles above. *Leaves* 2-3 to a culm, flat or channeled at the base, 1.5-3.5 mm wide. *Spikes* 4-8, closely aggregated into a dense, stiff, ovoid or orbicular head, up to 2 cm long staminate above, the lowest sometimes slightly separate, perigynia spreading at maturity; *bracts* lacking, or sometimes a rudimentary one at the base of the head; *scales* acute or cuspidate to acuminate, ovate-triangular, lustrous chestnut-brown, hyaline margins and green midrib conspicuous; about the size of the perigynia and largely concealing them; *perigynia* ovate to ovate-elliptic, 3.5-5.0 mm long, flat or somewhat concave and nerveless ventrally, convex and more or less nerved dorsally, conspicuously margined, green becoming dark glossy-brown in the centre with bright green margins, serrulate from about the middle, tapering or contracted into a serrulate, bidentate


BRITISH COLUMBIA
Hood's sedge
(Carex hoodii)
MILES
0 100 200
0 100 200 300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W



Hood's sedge *(Carex hoodii)*

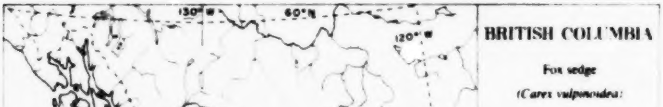
beak about one third the length of the body, teeth triangular-subulate; *achenes* lenticular, yellowish-brown, minutely apiculate; *stigmas* 2.

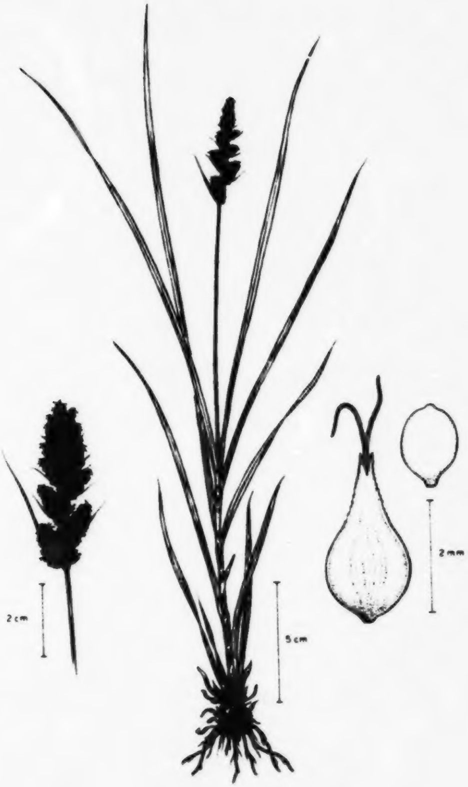
Mountain meadows and slopes from sea level to timberline; British Columbia to California, east to Alberta, Saskatchewan, South Dakota, Colorado and Utah; general in British Columbia south from about Lat. 55° N.

12. MULTIFLORAE

17. ***Carex vulpinoidea*** **Michx.** **Fox sedge**

Caespitose, rootstocks short-prolonged, stout. *Culms* up to 10 dm tall, stiff, sharply roughened on the angles above, usually shorter than the leaves. *Leaves* 4-5, on the lower half of the culm, flat, 2-6 mm wide, long-attenuate, sheaths cross-rugulose ventrally, the mouth thickened and slightly prolonged. *Spikes* numerous, staminate above, in a dense linear-to lance-cylindric head 2-15 cm long, lower branches more or less separate, greenish-yellow when young, brownish-yellow at maturity, staminate flowers inconspicuous, the crowded perigynia ascending to divaricate at maturity; *bracts* hair-like, prolonged, conspicuous; *scales* ovate, yellowish-brown-hyaline, centre 3-nerved, green, terminating in a long rough awn; *perigynia* plano-convex, ovate to ovate-lanceolate, 2-3 mm long, yellowish-green to straw-coloured, thick-edged and corky-margined to the rounded base, flat, nerveless or nearly so ventrally, rounded and several-nerved dorsally, tapering gradually into a beak one-


BRITISH COLUMBIA
Fox sedge
(Carex vulpinoidea)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
130° W
120° W



Fox sedge *(Carex vulpinoidea)*

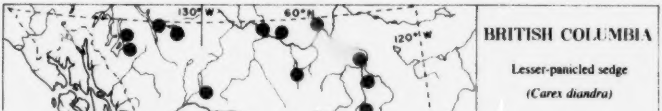
half to two-thirds the length of the body, teeth subulate, sharp; *achenes* lenticular, orbicular-ovate, long-tapering at the base; *stigmas* 2.

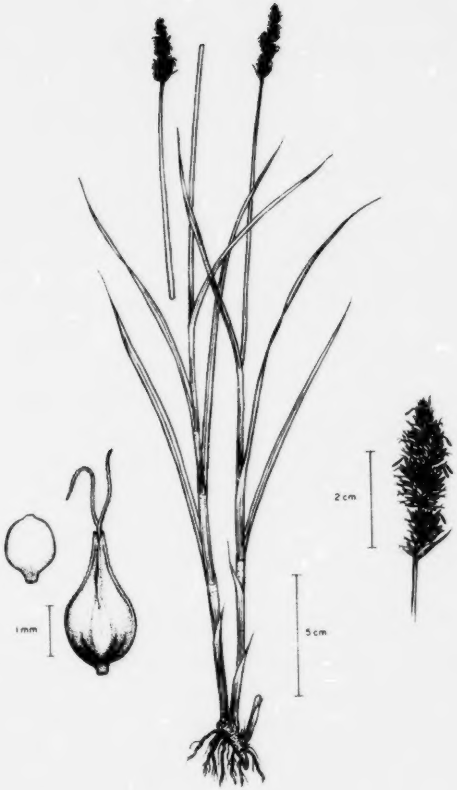
Swampy places at mid altitudes; British Columbia to Newfoundland, southward to Oregon, Arizona and Florida; uncommon in British Columbia, known from a few localities in the extreme south.

13. PANICULATAE

18. *Carex diandra* Schrank **Lesser-panicled sedge**

Caespitose, forming large clumps; rootstocks fibrillose, short. *Culms* 3-10 dm tall, exceeding the leaves, sharply triangular, strongly roughened on the angles. *Leaves* narrow, 1-3 mm wide, flat or channeled, sheaths conspicuously striate, thin, tight and speckled with red ventrally, not copper-tinged at the mouth. *Spikes* numerous, staminate above, densely aggregated into a stiff, brown head 1.5-6.0 cm long, the spikes scarcely distinguishable; *bracts* inconspicuous, sheathless, the lowest sometimes more elongate, hair-like; *scales* acute to more or less cuspidate, brownish with a lighter midrib and hyaline margins, wider but mostly shorter than the perigynia; *perigynia* ascending or spreading, strongly convex, prominently few-nerved dorsally, slightly convex, little-nerved at the base ventrally, ovate, about 3 mm long, brown, glossy, short-stipitate, tapering or abruptly contracted into a long serrulate, green or whitish beak; *achenes* lenticular, broadly ovate, stipitate, long-tapering above; *stigmas* 2.



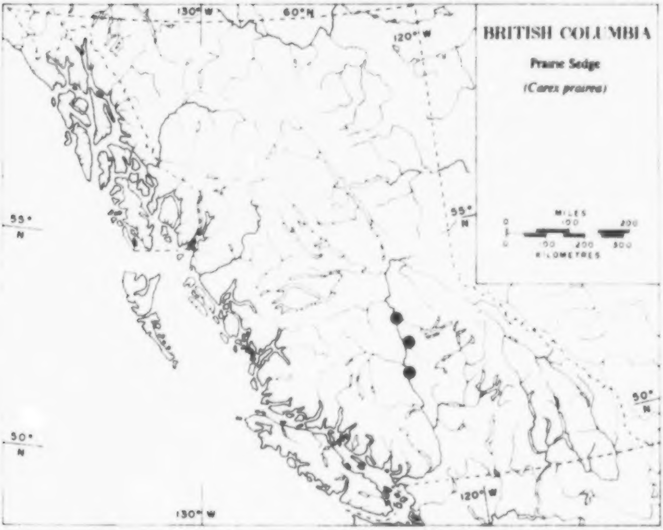


Lesser-panicled sedge *(Carex diandra)*

Wet, frequently calcareous, meadows and bogs; circumboreal, Yukon to Newfoundland, south to California, Utah, Colorado, Indiana and New Jersey; Eurasia; general throughout the interior of British Columbia, occasional on Vancouver Island.

19. *Carex prairea* Dewey **Prairie sedge**

Caespitose. Rootstocks short, fibrillose, blackish. *Culms* to 10 dm tall, somewhat exceeding the leaves, aphyllopodic, rough on the angles. *Leaves* 3 or 4 on a fertile culm; blades 1-3 dm long, 2-3 mm wide, flat, margins revolute; sheaths tight, prolonged, convex, copper-tinged at the top, ligule very short. *Spikes* androgynous in an interrupted head 4-8 cm x 1-2 cm; lowest brack setaceous, the others scale-like. *Scales* acute to cuspidate, light reddish-brown, margins hyaline, centre light, 1 to 3-nerved. *Staminate* flowers inconspicuous. *Perigynia* 2.5-3.0 mm long, appressed or ascending, dull, dark straw-coloured or brownish, few nerved dorsally, sharp edged, serrulate above, stipitate; beak 1 mm long, serrulate, greenish or whitish, bidentate, reddish-tipped, suture hyaline margined; achene lenticular stipitate; stigmas 2.

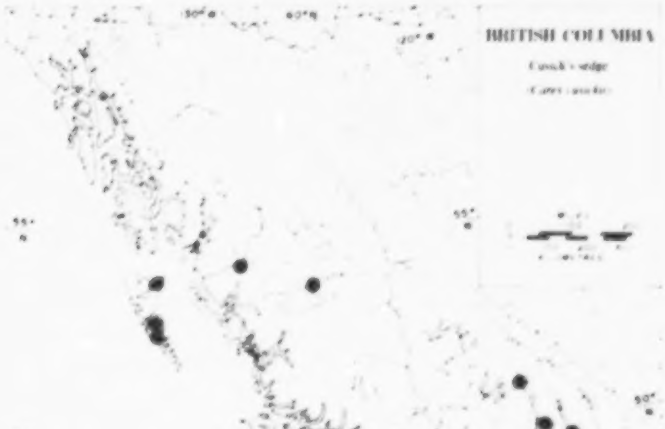

BRITISH COLUMBIA
Prairie Sedge
(Carex prairea)
MILES
0 100 200
0 100 200 300
KILOMETRES
130° W
60° N
120° W
55° N
50° N

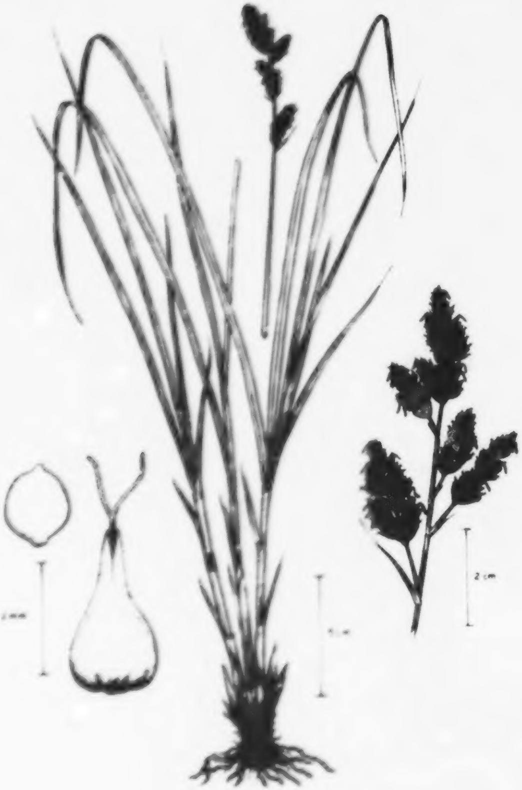
Wet, often calcareous, meadows, bogs and open thickets; transcontinental, British Columbia to Nova Scotia, south to Nebraska, Ohio and New Jersey; known in British Columbia from a few collections in the Cariboo district.

(Not illustrated)

20. *Carex cusickii* Mackenzie **Cusick's sedge**

Somewhat caespitose, rootstocks creeping. *Culms* up to 12 dm tall, sharply triangular, roughened on the angles above, much exceeding the leaves. *Leaves* 3-4, mostly clustered toward the base of the culms, flat with revolute margins, 2.5-6.0 mm wide, roughened towards the tip, sheaths more or less septate-nodulose dorsally, conspicuously red-dotted ventrally, concave and copper-coloured at the mouth. *Spikes* individually small, few-flowered, staminate above, sessile, very numerous in a compound grass-like inflorescence, 3.5-8.0 cm long, the lower branches more or less separate, the upper aggregated, perigynia spreading at maturity; *bracts* small, inconspicuous, scarcely different from the pistillate scales, or sometimes the lowest ones more elongate and hair-like; *scales* ovate-triangular, acute, brown, margins hyaline, midvein lighter, about the size of the perigynia and falling with them; *perigynia* spreading, biconvex, thick, ovoid to orbicular, 2.5-4.0 mm long, coriaceous, glossy, brownish-black at maturity, few-nerved dorsally, usually obscurely nerved toward the base ventrally, strongly spongy-thickened at the base, the margin sharp, serrate above, abruptly narrowed into a setulose-serru-





Cusick's sedge (*Carex cusickii*)

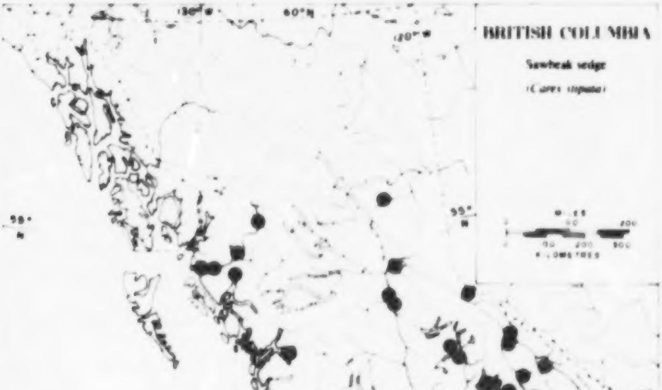
late, shallowly bidentate beak less than half the length of the body; *achenes* lenticular, suborbicular to obovoid, substipitate, *stigmas* 2.

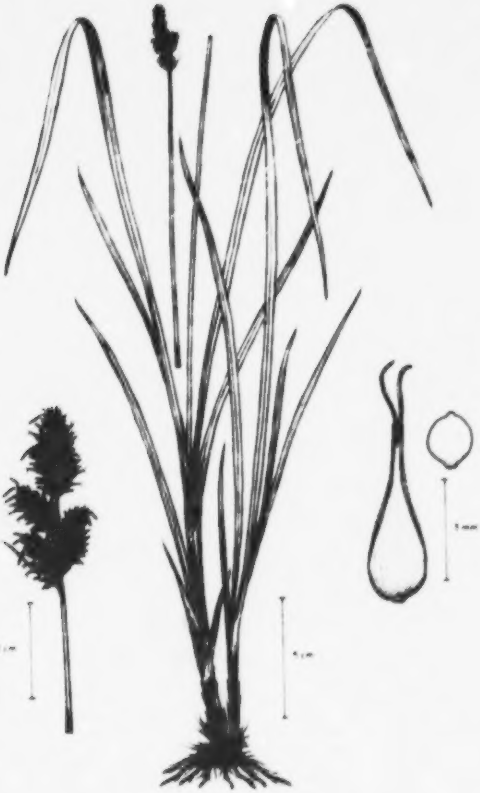
Marshes, sphagnum bogs and low places generally, from sea-level to moderate altitudes; southern British Columbia to northwest Montana, south to Utah and coastal California; across British Columbia south from about Lat. 55° N.

14 VULPINAE

21. *Carex stipata* Muhl. **Sawbeak sedge**

Densely caespitose, rootstocks stout, short-prolonged. *Culms* up to 10 dm tall, stout, thick at the base, erect but weak, about equalling the leaves, the angles very narrowly winged, strongly serrulate above. *Leaves* 3-6 to a culm, yellowish-green, flat, 4-8 mm wide, sheaths septate-nodulose dorsally, thin, fragile, cross-rugulose ventrally. *Spikes* numerous, yellowish-brown, forming a compound, terminal, oblong-linear to ovoid head, 3-10 cm long, the lower often somewhat separate, the upper indistinguishable, the apical staminate flowers inconspicuous; *lowest bract* bristle-like up to 5 cm long, or lacking; *scales* narrower than and only the length of the bodies of the perigynia, ovate-triangular, acuminate or cuspidate, brownish-hyaline; centre green, 3-nerved; *perigynia* plano-convex, subulate-lanceolate to narrowly ovate, 4-5 mm long, yellow at maturity, strongly nerved on both surfaces, sharp-edged to the spongy, stipitate base, tapering into a long, serrulate beak about the





Sawbeak sedge (*Carex stipata*)

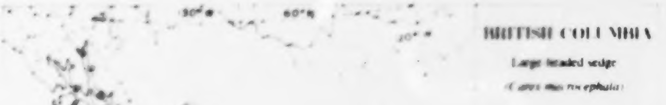
length of the body; *achenes* lenticular, substipitate, ovate-orbicular; *stigmas* 2.

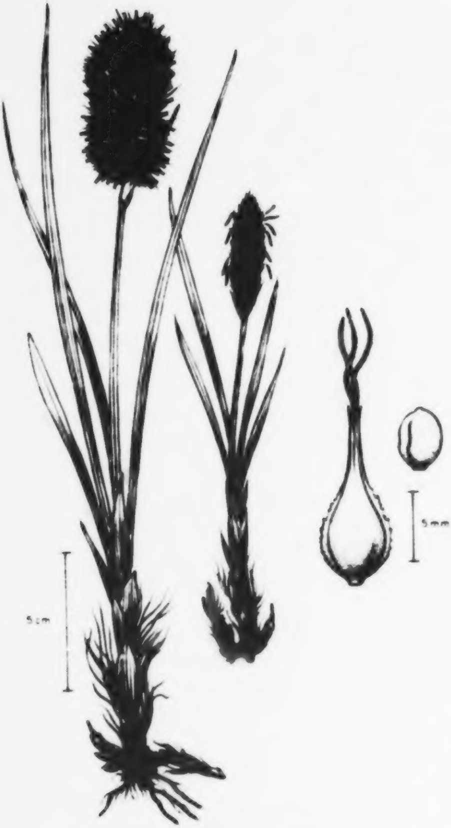
Swamps, wet meadows and ditches; Alaska to Newfoundland, southward to California, New Mexico and North Carolina; Japan; generally distributed in the south half of British Columbia.

15. MACROCEPHALAE

22. ***Carex macrocephala*** **Willd.** **Large-headed sedge**

Vertical rootstocks from long, spreading horizontal rootstocks. *Culms* up to 3.5 dm tall, arising singly or a few together, stiff, stout, long,black-fibrillose and brown at base, clothed with old leaves. *Leaves* 2-5 to a culm, clustered near the base, blades 4-8 mm wide, channeled, thickish, yellowish-green, sharp-pointed, often exceeding the culms. Plants generally dioecious; *staminate spikes* many in heads 4 cm x 1 cm, *bractless; pistillate spikes* many, in ovate heads 3-5 cm long, about 3 mm wide; *bracts* (may be very numerous) up to 6 cm long, serrulate, enlarged at base; *scales* acuminate to awned, equalling or shorter than the perigynia, striate, chestnut-brown, margins hyaline, centre green; *perigynia* course, 10-15 mm long, lance-ovate, plano-convex or biconvex, thick, coriaceous, brownish-yellow or brownish-tinged, shining, strongly nerved on both faces, winged, irregularly lacerate, serrulate, beak about as long as the body, smooth, bidentate, teeth subulate; *achenes* about 4





Large-headed sedge *(Carex macrocephala)*

mm long, obtusely triangular, constricted in the middle, brownish, jointed with the flexuous style; *stigmas* 3.

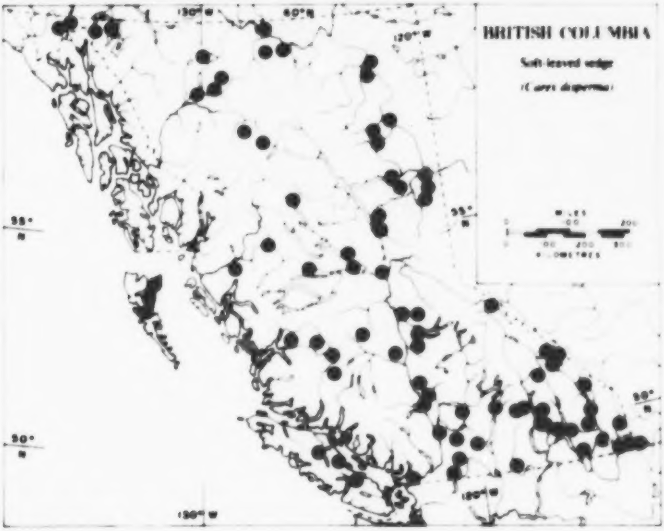
Sands along the coast; Alaska to Oregon; also on the Pacific shores of Japan and China; common coastal species in British Columbia.

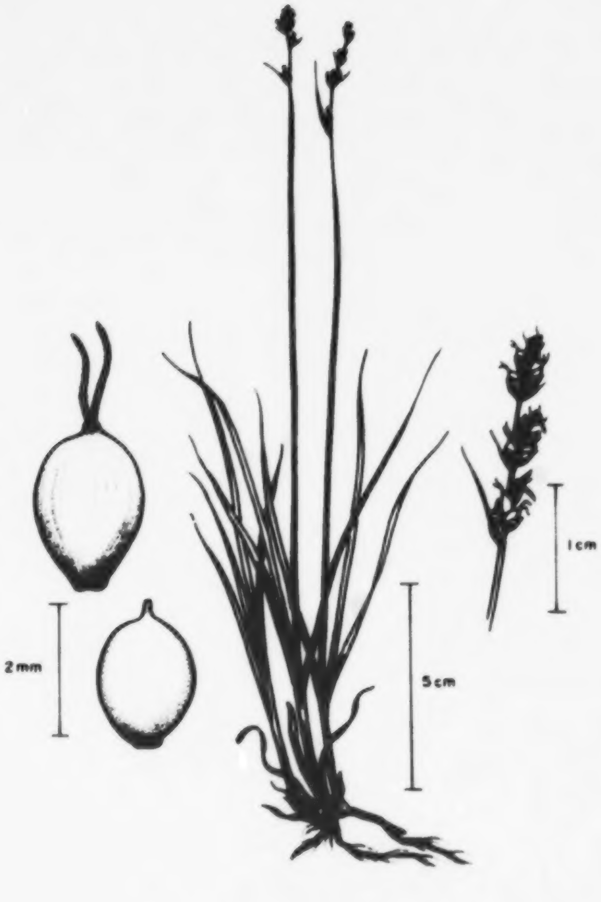
16. HELEONASTES

23. *Carex disperma* Dewey **Soft-leaved sedge**

Loosely caespitose, rhizomes long, slender, light brown. *Culms* very slender, weak, mostly exceeding the leaves, usually nodding, clothed with old leaves at the base. *Leaves* thin, soft, flat, 0.75-2.0 mm wide. *Spikes* 2-4, staminate above, 3-6 on the lower third, the lower separate, upper aggregated, mostly with 1-3 perigynia and 1 or 2 apical, inconspicuous staminate flowers; *bracts* hair-like, up to 1 cm long; *scales* ovate-triangular, white-hyaline with green midrib, narrower and shorter than the perigynia; *perigynia* ascending, plump, unequally biconvex, elliptic-ovoid, about 2.5 mm long, light-green to yellowish-green, white-punctate, finely many-nerved on both surfaces, short-stipitate, abruptly contracted into a minute entire beak; *achenes* lenticular, oblong-elliptic, brownish-yellow, glossy; *stigmas* 2.

Boggy and peaty situations, open coniferous woods; Alaska to Labrador, southward to California, Arizona, Indiana, and New Jersey; Eurasia; general throughout British Columbia.


BRITISH COLUMBIA
Soft-leaved sedge
(Carex disperma)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
130° W
120° W

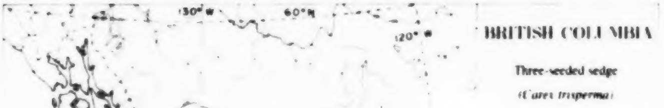


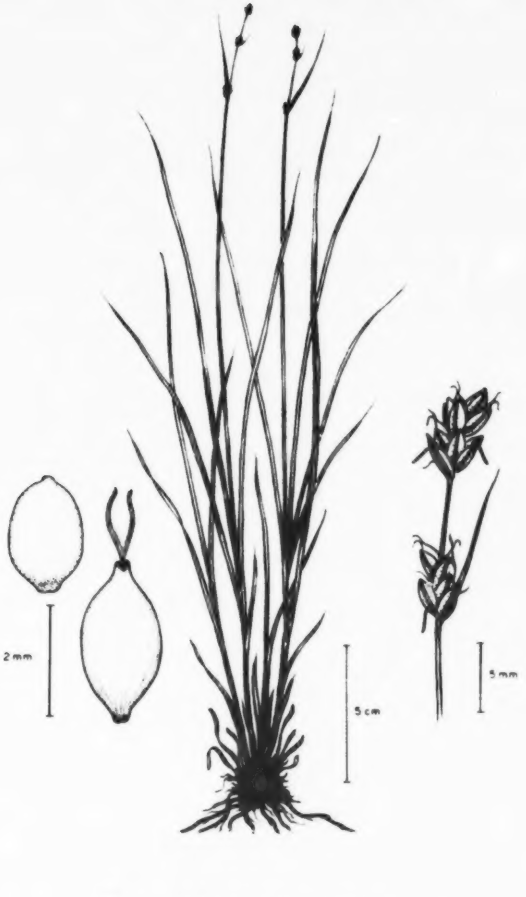
Soft-leaved sedge *(Carex disperma)*

24. *Carex trisperma* Dewey Three-seeded sedge

Stoloniferous, loosely caespitose. *Culms* very slender, weak, up to 7 dm tall, usually much exceeding the leaves. Leaves narrow, 1-2 mm wide, soft. *Spikes* 2 or 3, pistillate above, 1-4 cm apart, inflorescence slender and flexuous; *lowest bract* 2-4 cm long, hair-like; *scales* ovate, acute, hyaline, centre green, shorter than or about concealing the perigynia; *perigynia* 2-5 in a spike, 3-4 mm long, oval, thickly plano-convex, finely many-nerved, beak very short, emarginate; *achenes* lenticular, oval-oblong, filling the body of the perigynium; *stigmas* 2.

Mossy woods and bogs; British Columbia to Newfoundland, south to Minnesota, Indiana, Ohio, West Virgina and Maryland; collected in east-central British Columbia, rare.


BRITISH COLUMBIA
Three-seeded sedge
(Carex trisperma)
130° W
60° N
120° W
55° N
50° N
MILES
KILOMETRES

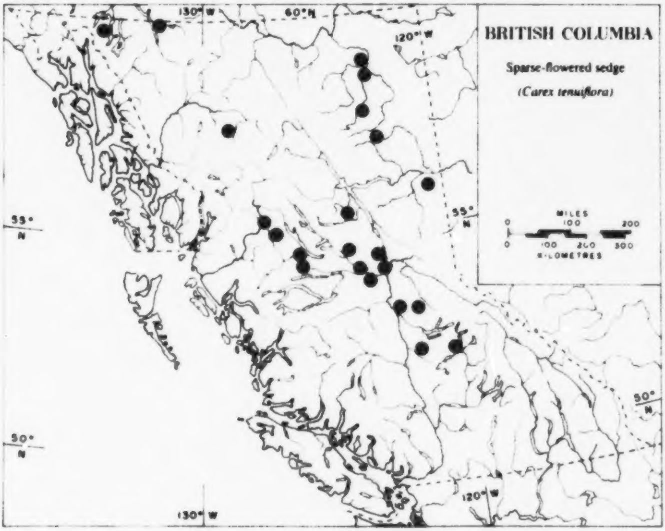


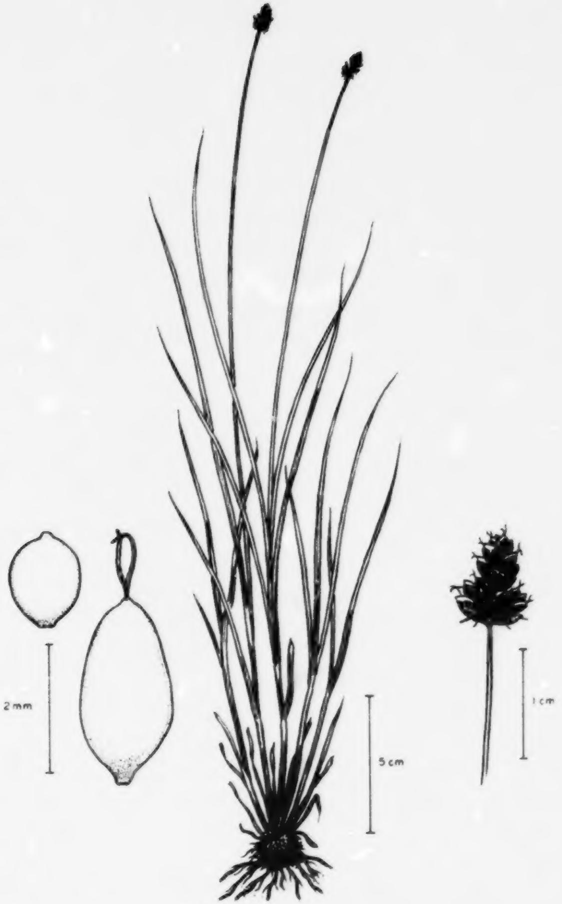
Three-seeded sedge *(Carex trisperma)*

25. *Carex tenuiflora* Wahl. **Sparse-flowered sedge**

Loosely caespitose, rootstocks long, slender, yellowish-brown. *Culms* up to 6 dm tall, equalling or somewhat exceeding the leaves, slender, firm, roughened beneath the head, brownish at the base, old leaves conspicuous. *Leaves* 3-7 to a culm, on the lower third, 0.5-2.0 mm wide, flat or caniculate, soft, greyish-green. *Spikes* 2-4, pistillate above, 4-9 mm long, whitish, aggregated in a head; *bractless; scales* obtuse, yellowish-white, centre green, 3-nerved, concealing the perigynia; *perigynia* 3-15 to a spike, 1.5-3.0 mm long, appressed-ascending or spreading, plano-convex, greenish-white to green, puncticulate, obscurely-nerved, sharp-edged, beak very short or lacking; *achenes* lenticular, apiculate, sessile; *stigmas* 2.

Sphagnum bogs; circumboreal Alaska to Newfoundland, south to British Columbia, Alberta, Minnesota, Michigan and Maine; occurs in the central and northern interior of British Columbia.


BRITISH COLUMBIA
Sparse-flowered sedge
(Carex tenuiflora)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
130° W
120° W

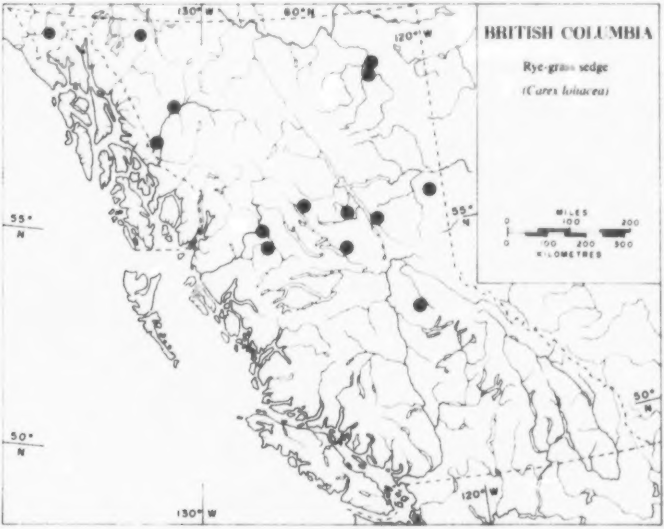


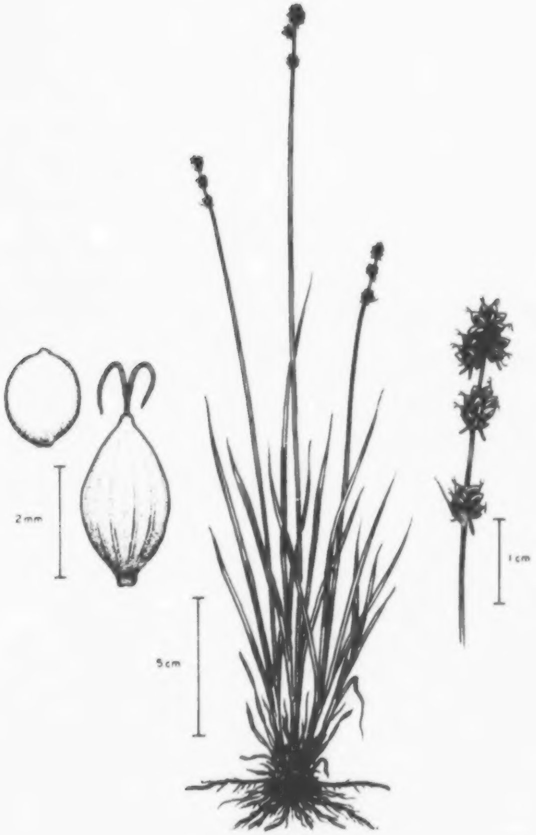
Sparse-flowered sedge *(Carex tenuiflora)*

26. *Carex loliacea* L. Rye-grass sedge

Loosely caespitose, stolons long, slender, light-brown. *Culms* up to 4 dm tall, greatly exceeding the leaves, slender, weak, roughened beneath the head, clothed with old leaves. *Leaves* 4-8 to a culm, on the lower third, 0.5-2.0 mm broad, flat, soft, yellowish-green, apex attenuate. *Spikes* 2-5, pistillate above, in an interrupted head; *lowest bract* 2-8 mm long, the upper scale-like; *scales* obtuse, keeled, thin, midrib green, margins white-hyaline, much shorter than the perigynia; *perigynia* 3-8 to a spike, 2.5-3.0 mm long, ascending or spreading, thick-plano-convex, light-green, white-punctate, strongly-nerved on both faces, sharp-edged above, stipitate, beakless; *achenes* lenticular, brownish, substipitate, apiculate, jointed with the short, deciduous style; *stigmas* 2.

Stream banks and marshes; Alaska and Yukon, south to British Columbia and Alberta; Eurasia; scattered in the northern half of British Columbia.

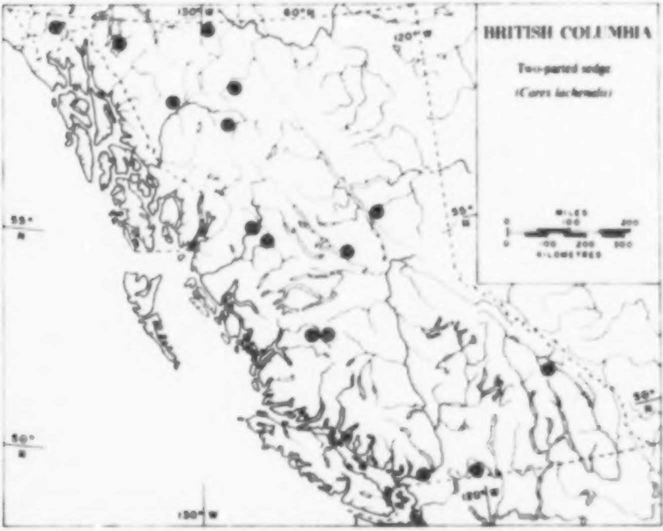

BRITISH COLUMBIA
Rye-grass sedge
(Carex loliacea)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
130° W
120° W

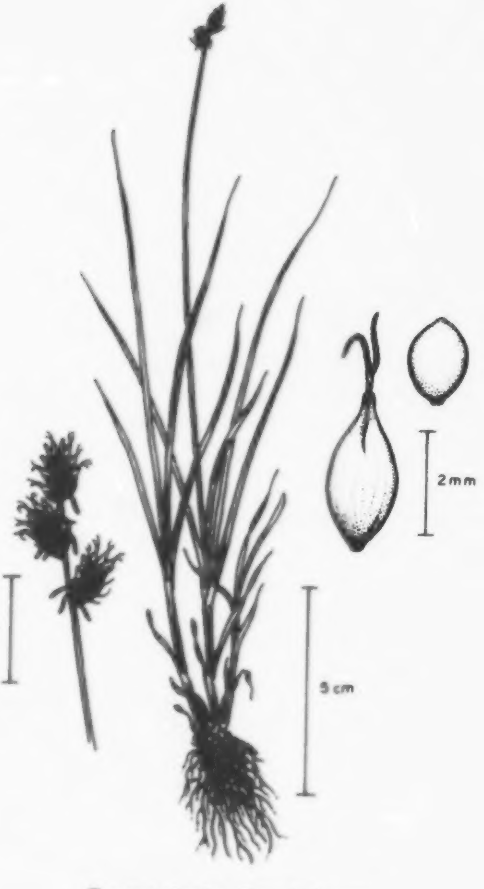


Rye-grass sedge *(Carex loliacea)*

27. *Carex lachenalii* Schkuhr **Two-parted sedge**

Loosely caespitose, rootstocks short-prolonged, fibrillose. *Culms* up to 3 dm tall, slender, exceeding the leaves, clothed with old leaves at base. *Leaves* clustered on the lower fourth of the culm, flat or nearly so, stiff, 1.0-2.5 mm wide, margins revolute, attenuate towards the tip. *Spikes* 1-4, more or less aggregated but distinct, pistillate above, staminate flowers inconspicuous except in the strongly clavate terminal spike; *bracts* scale-like, lower sometimes prolonged; *scales* oblong-ovate, obtuse, about as wide as, but somewhat shorter than, the perigynia, chestnut-brown, or reddish-tinged with wide white hyaline margins and yellowish-brown centre; *perigynia* 2.0-3.5 mm long, plano-convex, obovoid, margins thinly sharp-edged, lightly nerved dorsally, obscurely so or nerveless ventrally, yellowish-brown, punctate, mostly gradually narrowed into a short but conspicuous, smooth, dark-chestnut, hyaline-tipped beak; *achenes* lenticular, oval; *stigmas* 2. (*C. bipartita* auth.)


BRITISH COLUMBIA
Two-parted sedge
(Carex lachenalii)
MILES
0 100 200
0 100 200 300
KILOMETRES
130°W
60°N
120°W
55°N
50°N



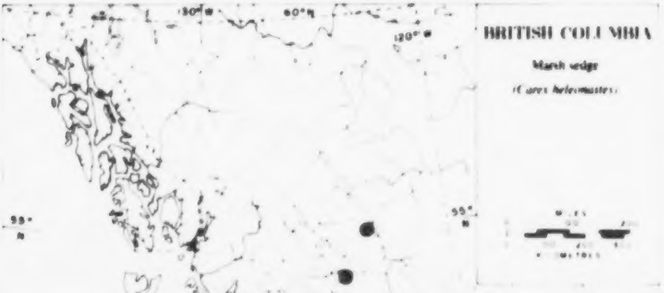
Two-parted sedge *(Carex lachenalii)*

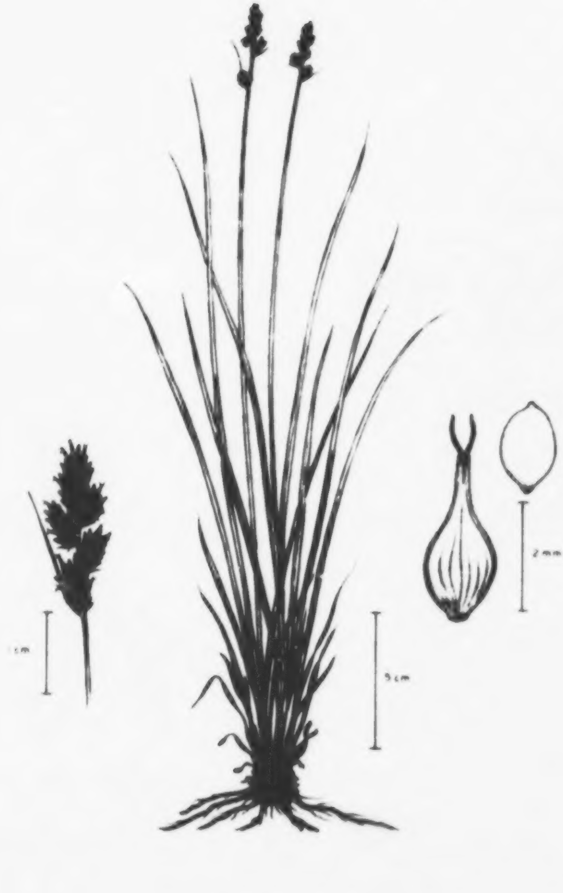
Wet places in the alpine and subalpine zones; circumboreal, Alaska to Greenland, south to British Columbia, Montana, and Utah; Quebec; throughout the interior of British Columbia, commonest in the north.

28. *Carex heleonastes* Ehrh. Marsh sedge

Loosely caespitose, rootstocks long, slender, light-brownish, fibrillose. *Culms* to 35 cm tall, stiff, scabrous, brownish-tinged at base, clothed with old leaves. *Leaves* 4-8 to a culm, on the lower fourth, blades 6-12 cm long, flat or involute, light-green, roughened towards the attenuate apex. *Spikes* 2-4, pistillate above, distinct but closely aggregated, heads 8-19 mm long; *bracts* scale-like sometimes cuspidate; *scales* obtuse, thin, keeled, reddish-brown with broad white-hyaline margins, centre yellowish-brown, slightly shorter than the perigynia; *perigynia* elliptic-obovate, plano-convex, about 3 mm long, appressed-ascending, thick, greenish-white below, light-yellowish-brown above or throughout, finely nerved on both faces, beak short, conical, scabrous, reddish-brown; *achenes* 1.5 mm, filling the cavity, lenticular, sessile, apiculate, jointed with the deciduous style; *stigmas* 2.

Peat bogs, marshes; Mackenzie to Ontario, southward to British Columbia and Alberta; Eurasia; very rare in British Columbia, known from a few scattered localities in the interior.

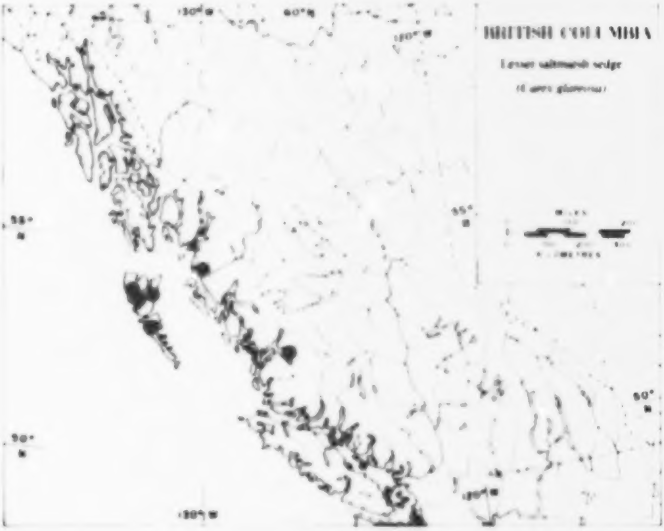


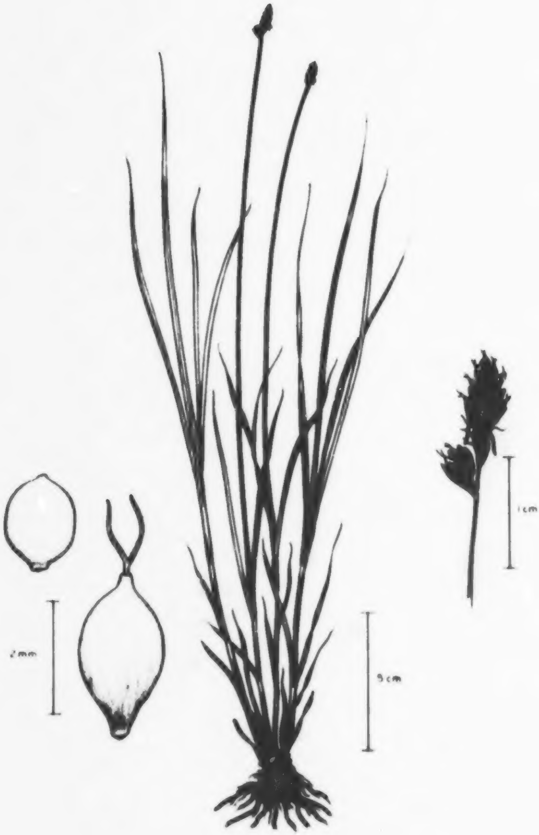


Marsh sedge *(Carex heleonastes)*

29. *Carex glareosa* Wahl. Lesser saltmarsh sedge

Loosely tufted, rootstocks long, slender, black, fibrillose. *Culms* up to 25 cm tall, smooth, usually flexuous or even decumbent, brownish, black-fibrillose at the base, densely clothed with last season's leaves. *Leaves* 4-8 on the lower fourth, mostly shorter than the culms, blades 4-12 cm (longer on sterile culms) x 1.25-2.5 mm wide, flat, caniculate, light-yellowish-green, stiff, roughened towards the attenuate apex. *Spikes* 2 or 3, the terminal pistillate above, 7-12 mm long, the lower pistillate in a head 12-18 mm long; *bracts* scale-like, rarely cuspidate; *scales* obtuse, keeled, chestnut-brown, centre scarcely lighter, 3-nerved, margins white-hyaline; *perigynia* 4-20 to a spike, 2.0-3.5 mm long, oblong, elliptic to lanceolate, appressed or appressed-ascending, plano-convex, membranous, light-brownish above, glaucous, white or yellowish below, white punctate, finely nerved, spongy at base, stipitate; beak minute, smooth, tawny-tinged, entire; *achenes* 2 mm long, lenticular, nearly filling the cavity, stipitate, spiculate, *stigmas* 2.





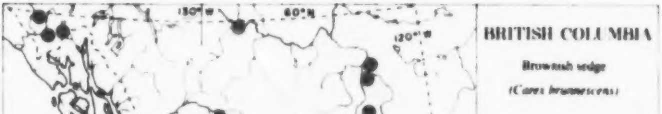
Lesser saltmarsh sedge (*Carex glareosa*)

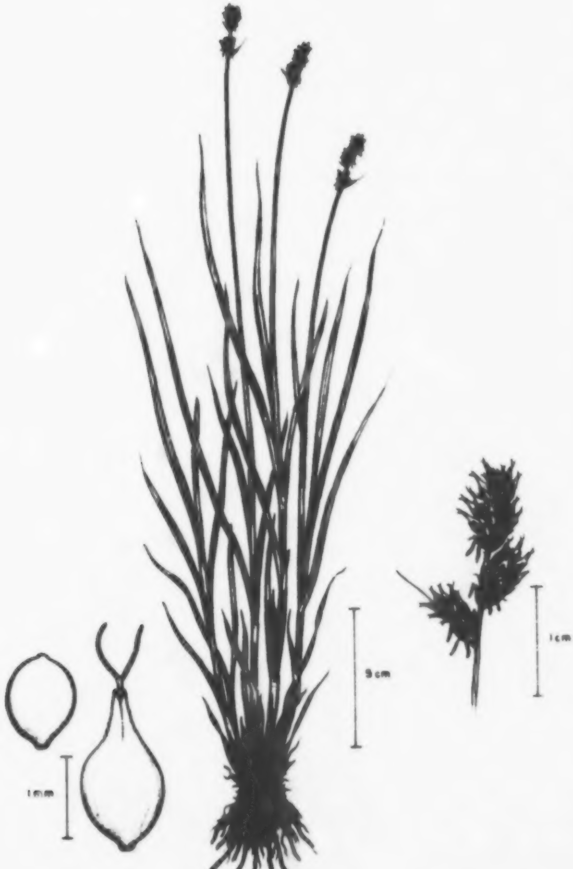
Brackish marshes; Quebec to Labrador and Newfoundland; Alaska and coastal British Columbia; Europe; coastal British Columbia as far south as Bella Coola.

30. *Carex brunnescens* (Pers.) Poir in Lam **Brownish sedge**

Densely caespitose, rootstocks blackish, short, fibrillose. *Culms* slender, up to 8 dm tall, exceeding the leaves, brownish at the base. *Leaves* deep green, flat, 1.0-2.5 mm wide, roughened towards the tip. *Spikes* 5-10, mostly pistillate above, the lower strongly separate, the upper approximate in a head, the terminal conspicuously clavate, perigynia appressed-ascending becoming loosely spreading at maturity, green to brown; *lowest bract* prolonged, the upper scale-like; *scales* ovate, white-hyaline with a 3-nerved, green centre, somewhat shorter than the perigynia; *perigynia* plano-convex, oval-ovate, about 2.5 mm long, broadest near the middle, thick, membranous, greenish to pale brown, lightly nerved on both surfaces, serrulate at the base of the distinct, serrulate, minutely bidentate beak, sutured dorsally, suture conspicuous for the entire length of the beak and onto the body of the perigynium; *achenes* lenticular, ovate-orbicular, yellowish; *stigmas* 2.

Bogs and meadows mostly fairly high in the mountains; circumboreal; Alaska to Labrador, south to Oregon, Wyoming, Utah, Colorado, Georgia, North Carolina and New Jersey; general in British Columbia.



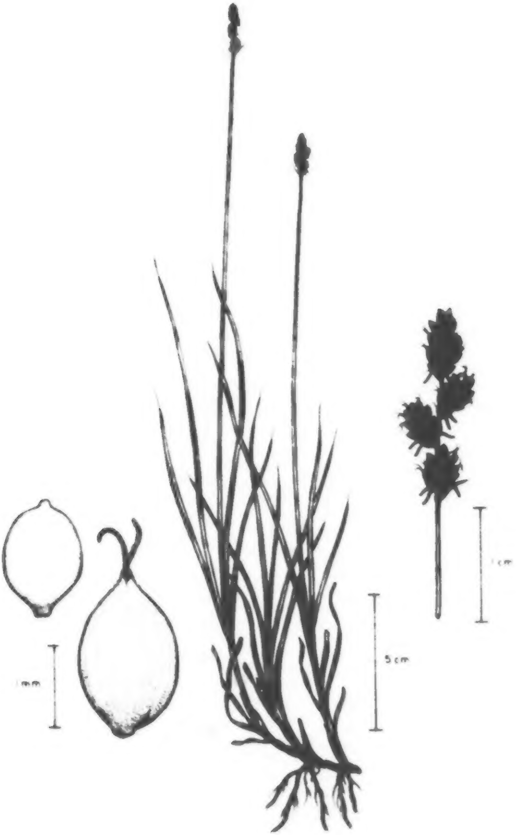


Brownish sedge (*Carex brunnescens*)

31. *Carex praeceptorium* Mack **Teacher's sedge**

Caespitose, forming small clumps; rootstocks short, dark, fibrillose. *Culms* up to 15 cm tall, exceeding the leaves, triangular, stiff, roughened beneath the head, clothed at the base with old leaves. *Leaves* 3-5 to a culm, on the lower fourth, 1.0-2.0 mm wide, caniculate, stiffish, light-green. *Spikes* 4 or 5, pistillate above, 4-7 mm long, closely aggregated into a head, perigynia ascending or loosely spreading; *lowest bract* somewhat prolonged, the upper scalelike; *scales* obtuse or acutish, ovate, strongly brown- or chestnut-tinged, margins hyaline, centre green, slightly shorter than the perigynia; *perigynia* 8-20 in a spike, 1.5-2.25 mm long, plano-convex, thick, yellowish-brown, white punctate, lightly many-nerved on both faces, sharp-edged above ventrally, abruptly contracted into a very short, entire, usually sparingly serrulate beak; *achenes* lenticular, yellowish-brown, broadly ovate; *stigmas* 2.

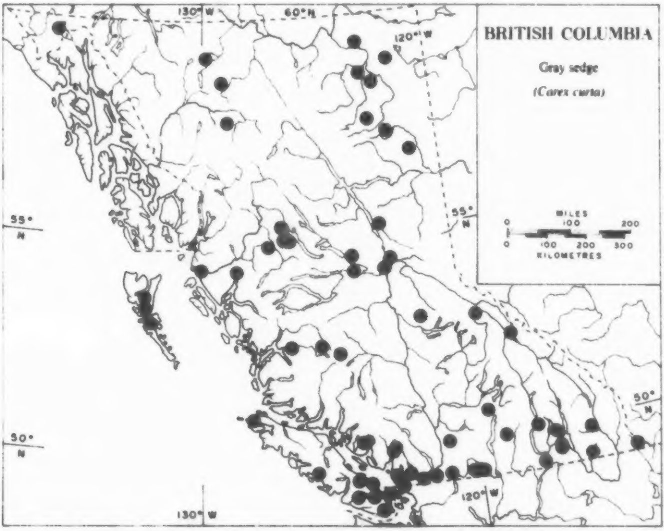
Alpine areas such as bogs, meadows, tundra and banks of high mountain streams; British Columbia to California, east to Wyoming, Colorado, Utah and Nevada; known in British Columbia from a single collection near Creston.

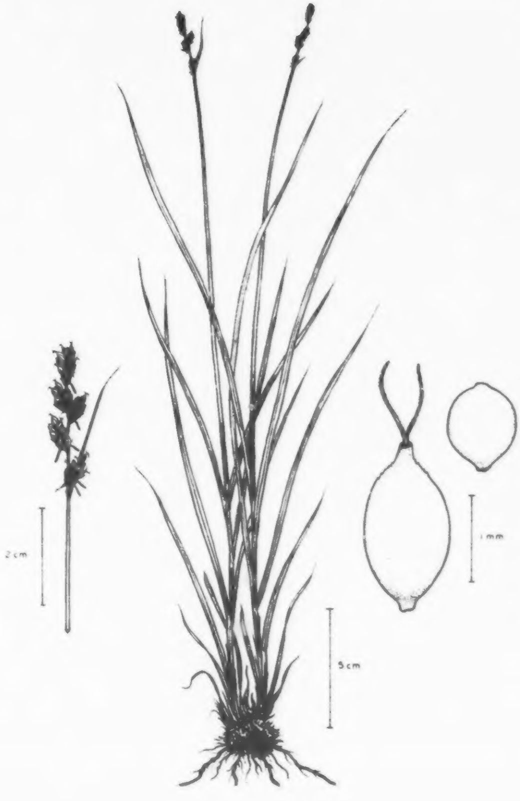


Teacher's sedge (*Carex praeceptorium*)

32. *Carex curta* Good **Gray sedge**

Densely caespitose, rootstocks short, black, fibrillose, often forming large clumps. *Culms* up to 8 dm tall, soft, sharply triangular, often lax and widely spreading, equalling or longer than the leaves, brownish at base, clothed with old leaves. *Leaves* clustered near the base, glaucous-green, soft, flat, 2-4 mm wide, attenuate to the apex. *Spikes* 4-8, pistillate above, silvery-brown, upper approximate, the lower separate, perigynia appressed-ascending, terminal spike generally clavate; *bracts* usually inconspicuous, short, sheathless, scarious, or the lowest ones setaceous-tipped and surpassing the spikes; *scales* broadly ovate, hyaline with a green, 3-nerved centre, shorter than the appressed-ascending perigynia; *perigynia* plano-convex, ovoid-oblong, 2.0-3.0 mm long, pale green to whitish-brown, more or less nerved on both surfaces, the ventral sharp margin more or less smooth, serrulate at the base of the very short, inconspicuous or obsolete beak; *achenes* lenticular, oblong-ovate; *stigmas* 2. (*C. canescens* auth., non L.)


BRITISH COLUMBIA
Gray sedge
(Carex curta)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W



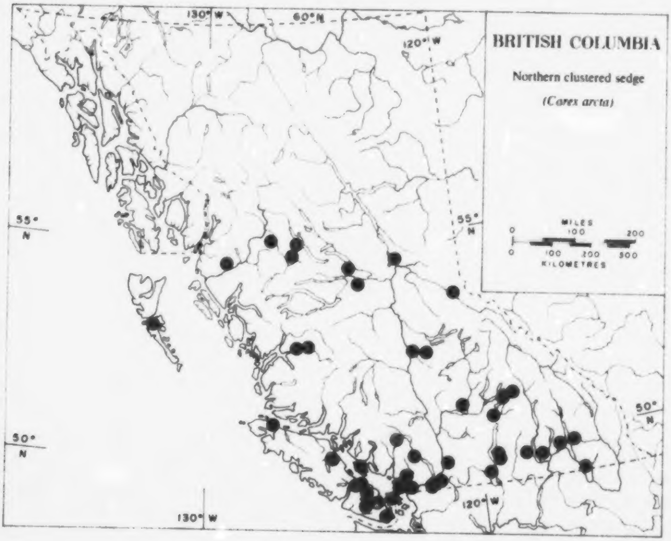
Gray sedge *(Carex curta)*

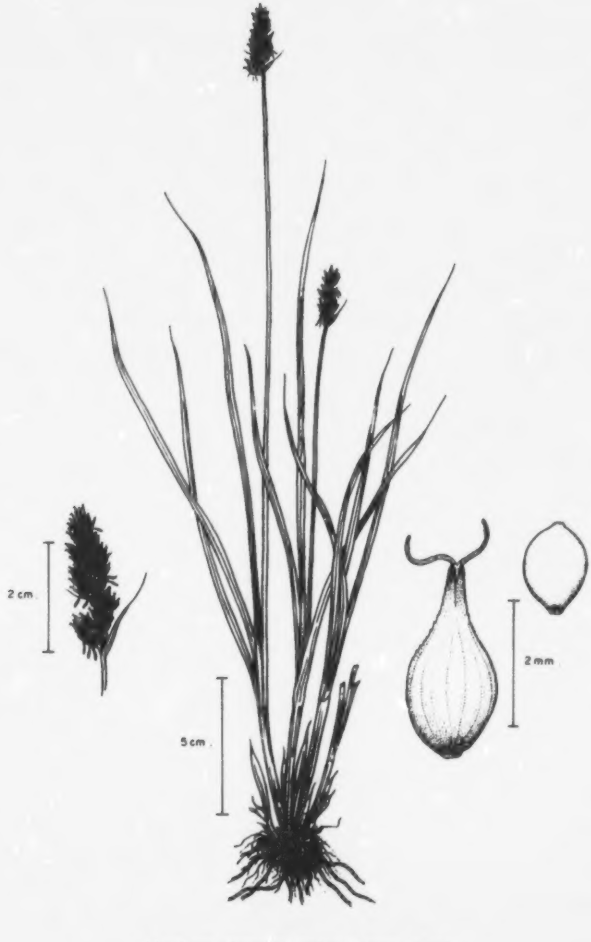
Wet places generally, particularly in swamps and sphagnum bogs; circumboreal, Alaska to Newfoundland, south to California, Arizona and New Jersey; Eurasia; Australia; common throughout British Columbia.

33. *Carex arcta* Boott **Northern clustered sedge**

Caespitose, rootstocks very short, thick. *Culms* up to 8 dm tall, soft, sharply triangular, very rough above, usually shorter than the leaves. *Leaves* clustered toward the base, light-green, flat, not more than 4 mm wide, the long-attenuate apex very rough. *Spikes* 5-15, pistillate above, crowded in a dense oblong head up to 3 cm long, the upper spikes closely aggregated, the lower well differentiated and sometimes slightly separate, staminate flowers inconspicuous; *scales* ovate, acutish, shorter than the perigynia, hyaline, usually with a brown-tinged centre; *perigynia* plano-convex, ovate to lance-ovate, about 3 mm long, greenish-straw-coloured or brownish at maturity, densely white-punctate, widest near the base, strongly several-nerved dorsally, more obscurely so ventrally, tapering into a prominent, flat, serrulate, bidentate beak; *achenes* lenticular, ovate, brownish; *stigmas* 2. (*C. arctaeformis* Mackenzie)

Streambanks and wet places generally from low altitudes to timberline; southern Yukon to Quebec, south to northwest California, northwest Montana, Idaho, Minnesota and New York; general throughout central and southern British Columbia.


130° W
60° N
120° W
BRITISH COLUMBIA
Northern clustered sedge
(Carex arcta)
MILES
0 100 200
0 100 200 300
KILOMETRES
55° N
55° N
50° N
50° N
130° W
120° W

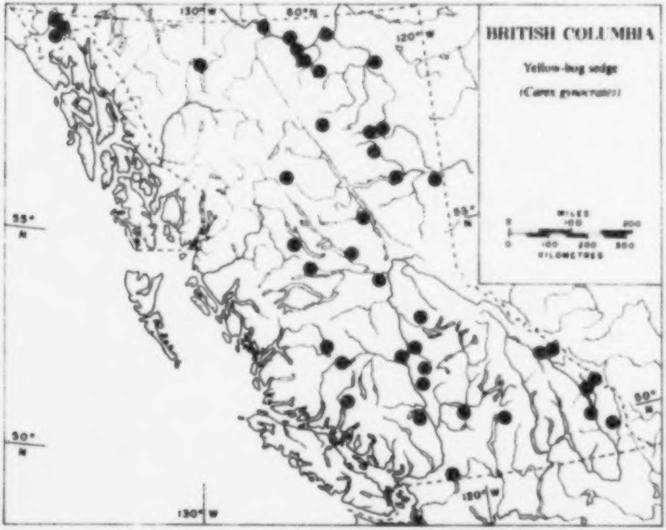


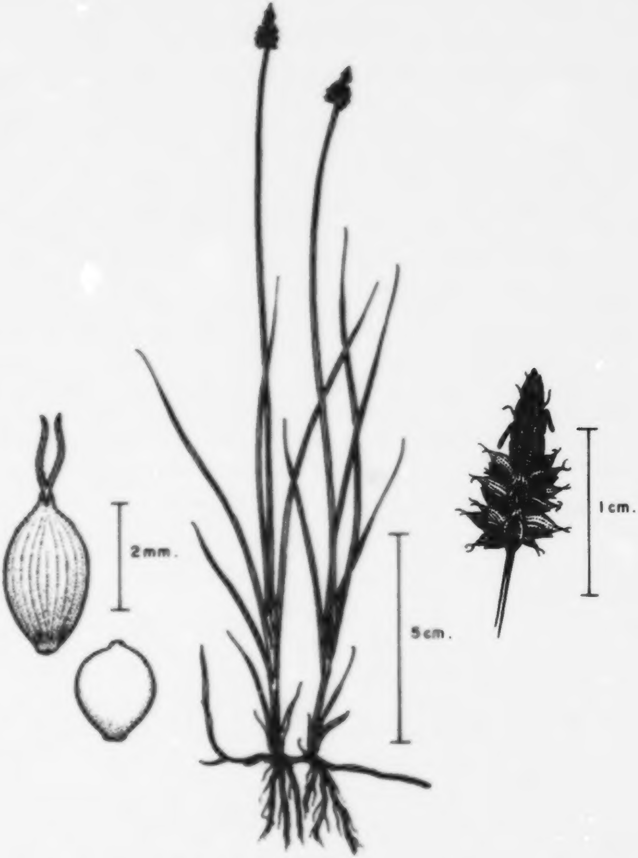
Northern clustered sedge *(Carex arcta)*

17. DIOICAE

34. *Carex gynocrates* Wormskj. **Yellow bog sedge**

Rootstocks slender, long stoloniferous. *Culms* single or few together filiform, stiff, smooth, up to 3 dm tall, exceeding the leaves, brown at base, clothed with old leaves. *Leaves* 3-5, clustered near the base, stiff, narrowly involute, 0.5 mm wide. *Spike* solitary, either entirely pistillate, entirely staminate, or pistillate at the base and staminate above, 5-15 mm long; *scales* obtusish to cuspidate, shorter but wider than the perigynia, light reddish-brown to brown; *perigynia* 4-10, ascending, spreading or reflexed, slenderly ovoid, biconvex at maturity, plump, 2.5-4.0 mm long, glossy, yellowish to brownish-black at maturity, finely many-nerved dorsally, obscurely so ventrally, scarcely margined but minutely serrulate above, round-tapering at the spongy base, abruptly contracted into a sparingly serrulate, dorsally cut beak about 0.5 mm long; *achenes* lenticular, broadly obovate, yellowish-brown, glossy; *stigmas* 2. (*C. dioica* Am. auth.)


BRITISH COLUMBIA
Yellow-bog sedge
(Carex gynocrates)
MILES
0 100 200
0 100 200 300
KILOMETRES
130°W
60°N
120°W
55° N
50° N
50° N
130°W
120°W



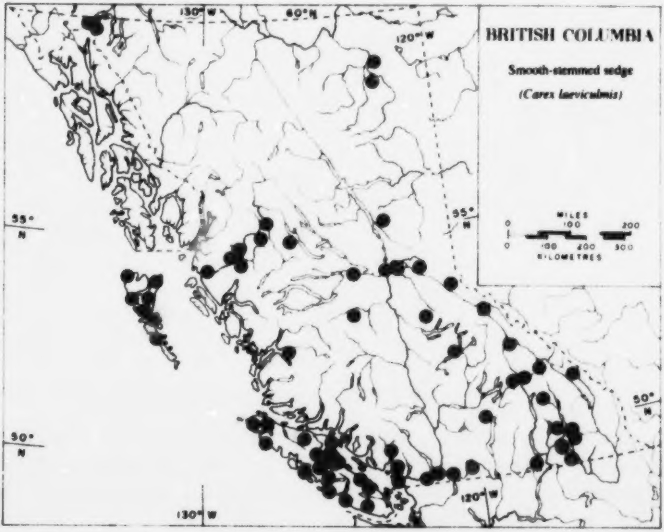
Yellow-bog sedge *(Carex gynocrates)*

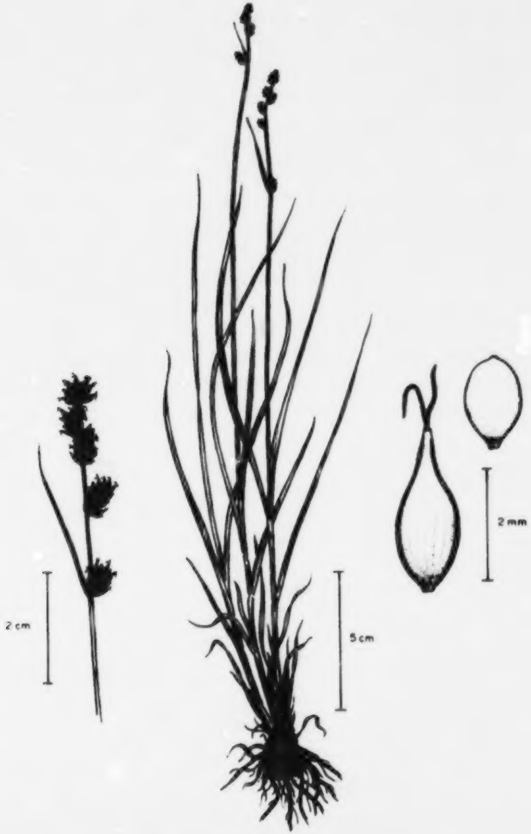
Swampy meadows, sphagnum bogs and marshy places; Yukon to Greenland, southward to Oregon, Utah, Colorado, Michigan, and Pensylvania; general throughout the interior of British Columbia but not collected on Vancouver Island or adjacent mainland.

18. STELLULATAE

35. *Carex laeviculmis* Meinsh. **Smooth-stemmed sedge**

Densely caespitose, rootstock slender, short-creeping. *Culms* weak, very slender, roughened beneath the head, up to 7 dm long, exceeding the leaves. *Leaves* on the lower quarter of the culm, 1-2 mm wide, flat, weak, pale green. *Spikes* 3-8, perigynia few, ascending or in age excurved, spreading, widely separated or the upper aggregated into a short-oblong head, 2-6 cm long, pistillate, except for the clavate-based, terminal spike which is pistillate above; *lowest bract* up to 5 cm long, the upper scale-like or cuspidate; *scales* obtusish, sharply keeled, yellowish-brown; centre green, 3-nerved, shorter than the body of the perigynia; *perigynia* plano-convex or concavo-convex, oblong-obovoid, 2.5-4.0 mm long, ascending or excurved, light-green to brownish-green, broadest above the middle, few-nerved on both surfaces, somewhat spongy at the base, tapering into a sparingly subserrulate beak one-third to one-fourth the length of the body, apex entire or emarginate; *achenes* lenticular, obovoid, sessile; *stigmas* 2.


130° W
60° N
120° W
BRITISH COLUMBIA
Smooth-stemmed sedge
(Carex laeviculmis)
MILES
0 100 200
0 100 200 300
KILOMETRES
55° N
55° N
50° N
50° N
120° W
130° W

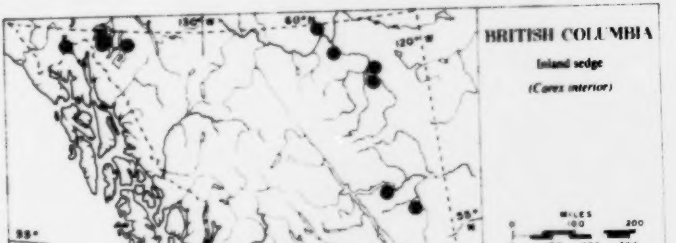


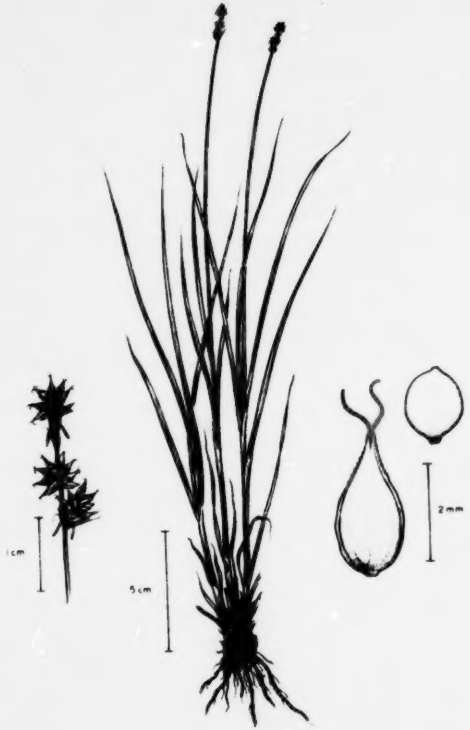
Smooth-stemmed sedge *(Carex laeviculmis)*

Boggy banks of streams, open, moist woods, etc.; Alaska to California, eastward to Idaho, Montana, and Colorado; common throughout British Columbia, particularly on the coast.

36. *Carex interior* Bailey **Inland sedge**

Densely caespitose, rootstocks short, dark-coloured. *Culms* erect or ascending, slender, wiry, strict, up to 5 dm tall, roughened on angles below the head, usually longer than the leaves. *Leaves* about 3 to a culm, thin, 1-3 mm wide, roughened on the margins and toward the tip. *Spikes* 2-4 (occasionally as many as 6), more or less closely crowded into an oblong head, the terminal usually pistillate above, long-clavate, sometimes entirely staminate and narrowly linear, or almost entirely pistillate and oblong, the 1-10 perigynia of the lateral spikes widely spreading at maturity; *bracts* scale-like or the lowest prolonged; *scales* broadly ovate, very obtuse, yellowish-brown with broad, white-hyaline margins and 3-nerved green centre, half the length of the body of the perigynium; *perigynia* 1-10 to a spike, concavo-convex, oblong-ovoid to deltoid, about 3 mm long, plump and firm, the body broadest just above the base, sharp and thick-margined, olive-green becoming brown, several-nerved dorsally, spongy for the lower third, rather abruptly narrowed into a sparingly serrulate, reddish-brown-tinged, shallowly bidentate beak about one-





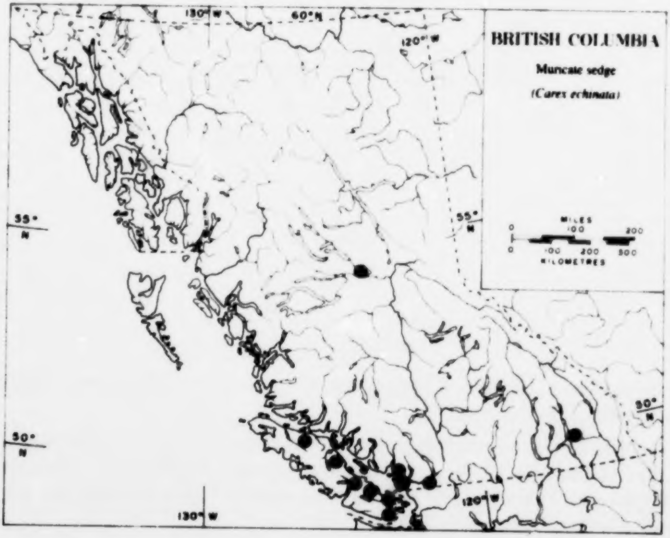
Inland sedge *(Carex interior)*

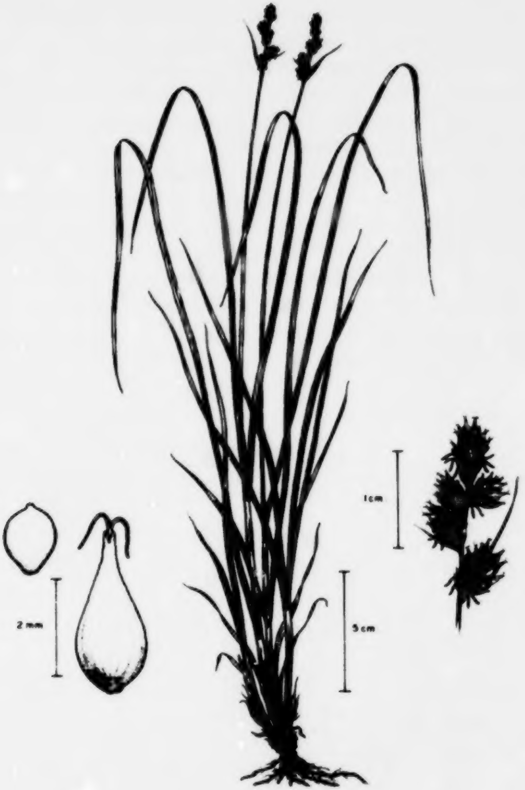
fourth to one-third the length of the body; *achenes* lenticular, broadly ovate-orbicular; *stigmas* 2.

Wet meadows, springy places and calcareous bogs at moderate altitudes; British Columbia to Labrador, southward to Mexico, California, Kansas, and Pennsylvania; general in the eastern half of British Columbia and southern Vancouver Island.

37. *Carex echinata* Murray **Muricate sedge**

Desnely caespitose, rootstocks not prolonged. *Culms* up to 3.5 dm tall, roughened beneath the head, light-brown at base, clothed with old leaves. *Leaves* 3 or 4 to a fertile culm, on the lower third, blades 1-2 dm x 1-2 mm, sometimes equalling the culms, flat or channeled, stiff, light-green. *Spikes* 3-7, contiguous or more or less remote, 4-10 mm long (the terminal longer and more staminate), pistillate above; *lower 1-2 bracts* hair-like, the upper scale-like; *pistillate scales* acute or cuspidate, yellowish-brown, or chestnut-brown-tinged, margins hyaline, centre green, 3-nerved, shorter than the perigynia; *perigynia* 5-10 to a spike, about 4 mm long, appressed, spreading or reflexed, plano- or concavo-convex, lance-ovate to ovate, thick, subcoriaceous, greenish-yellow or brownish, several-nerved dorsally, variably so ventrally, sharp-edged, serrulate above, spongy at the base; beak 1.25 mm long, reddish-brown-tinged ventrally, bidentate with subulate teeth; *achenes* 1.5 mm long, lenticular, golden-yellow, substipitate, apiculate, *stigmas* 2. (*C. angustior* Mack.; *C. stellulata* Gooden., *C. sterilis* Willd., *C. cephalantha* Bickn. *C. muricata* L.)


BRITISH COLUMBIA
Muricate sedge
(Carex echinata)
MILES
0
100
200
0
100
200
300
KILOMETRES
60°N
130°W
120°W
55°N
55°N
50°N
50°N
130°W
120°W



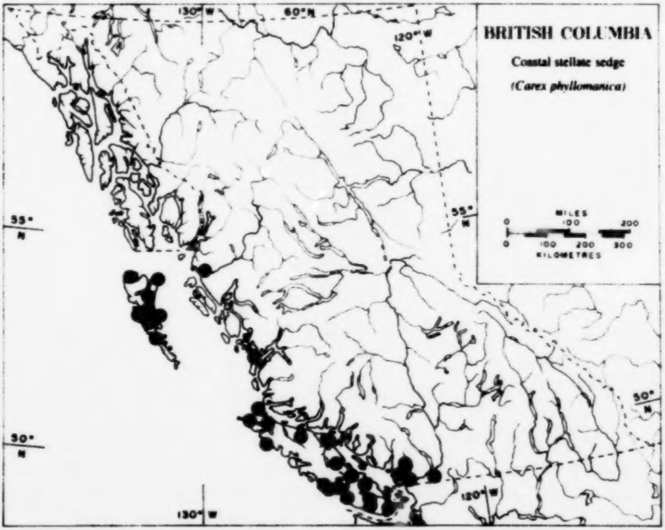
Muricate sedge *(Carex echinata)*

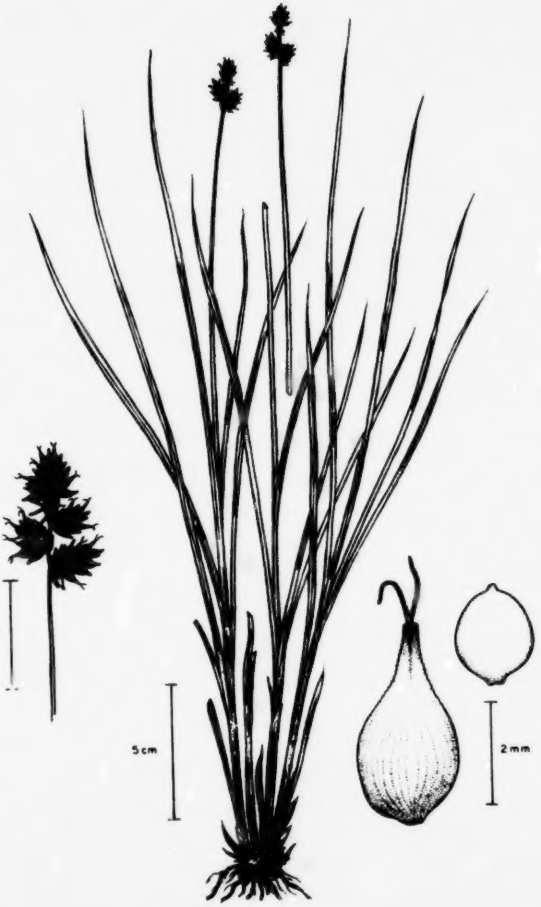
Swampy meadows and woods from low to moderate elevations; interruptedly circumboreal but not at the highest latitutdes, southward to California (in the Sierras), Utah, Colorado, Wisconsin and North Carolina; known in British Columbia mostly from the extreme south.

38. *Carex phyllomanica* Boott **Coastal stellate sedge**

Caespitose, rootstocks short, thick, ascending. *Culms* up to 6 dm tall, light brown at base, clothed with old leaves. *Leaves* 3-4 to a culm, on the lower third, blades 2-3 mm broad, flat or channeled, stiff, roughened towards the apex. *Spikes* 3-4, the terminal pistillate above, the lateral pistillate or obscurely pistillate above, 7 mm long and wide, sessile, in a head 15-35 mm long; *lowest bract* hair-like, the upper scale-like; *scales* obtuse, chestnut-brown, margins white-hyaline, centre green, 3-nerved; *perigynia* few, 3.75-4.5 mm long, spreading, plano-convex, thick, green or olive-green, many-nerved, sharp-edged, spongy at base, tapering to a beak about 1.5 mm long, serrulate, the apex chestnut-brown-tinged, hyaline-tipped, bidentate; *achenes* lenticular, 2 mm long, yellowish, substipitate, apiculate, jointed with the deciduous style; *stigmas* 2.

Sphagnum bogs near the coast; Alaska to California; general along the coast of British Columbia.


BRITISH COLUMBIA
Coastal stellate sedge
(Carex phyllomanica)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
130° W
120° W

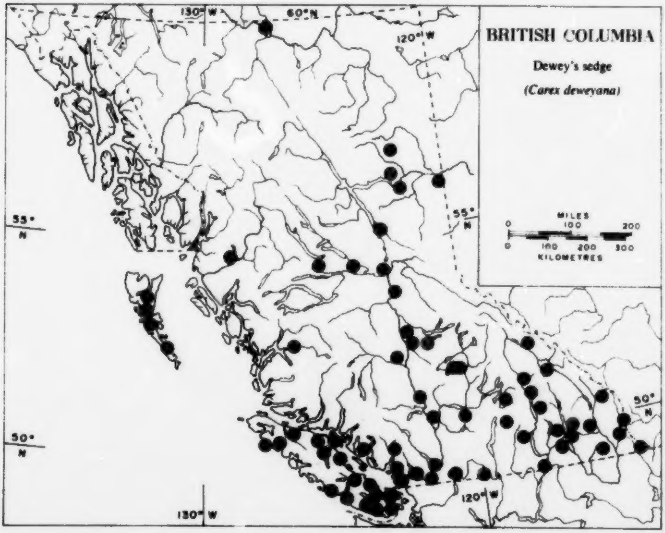


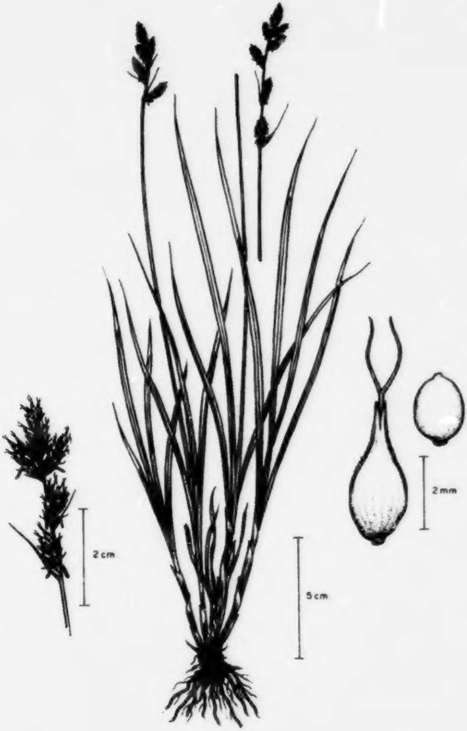
Coastal stellate sedge ***(Carex phyllomanica)***

19. DEWEYANAE

39. *Carex deweyana* Schwein **Dewey's sedge**

Somewhat caespitose, rootstocks short. *Culms* weak, spreading, up to 12 dm tall, roughened beneath the head, exceeding the leaves, clothed with old leaves. *Leaves* light-green or glaucous to yellowish-green, thin, soft, flat, 2-5 mm wide. *Spikes* 2-6, the lowest markedly separate, the upper approximate, forming a flexuous head 2-6 cm long, lateral usually pistillate, terminal staminate at the base, perigynia appressed-ascending; *bracts* reduced and inconspicuous, or the lower prolonged, hair-like; enlarged and hyaline margined at the base; *scales* ovate- to oblong-ovate, from obtuse to acuminate or short-awned, very thin and hyaline with a 3-nerved greenish centre, slightly shorter than the perigynia; *perigynia* 3-15 to a spike, plano-convex, about 5 mm long, oblong-lanceolate, pale-green, nerveless ventrally, obscurely nerved dorsally, very spongy at the base, the sharp margins serrulate at the base of the beak, tapering to a serrulate, weakly bidentate beak half the length of the body; *achenes* len-


BRITISH COLUMBIA
Dewey's sedge
(Carex deweyana)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
50° N
55° N
50° N
130° W
120° W



Dewey's sedge *(Carex deweyana)*

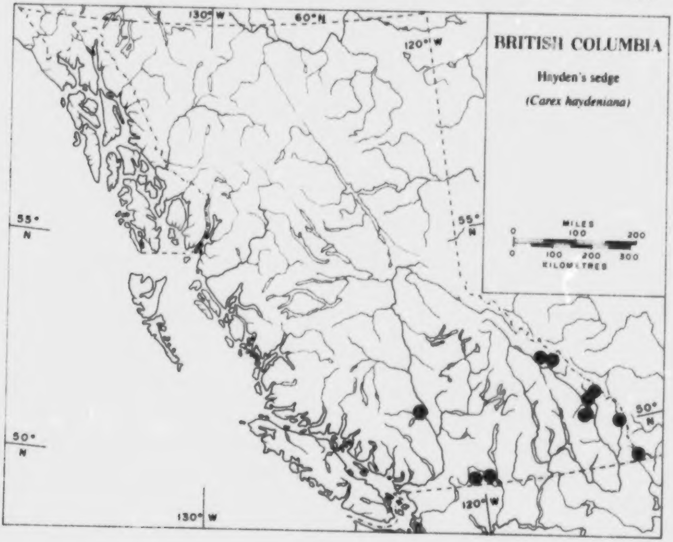
ticular, suborbicular, yellowish-brown; *stigmas* 2. (*C. leptopoda* Mack., *C. bolanderi* Olney)

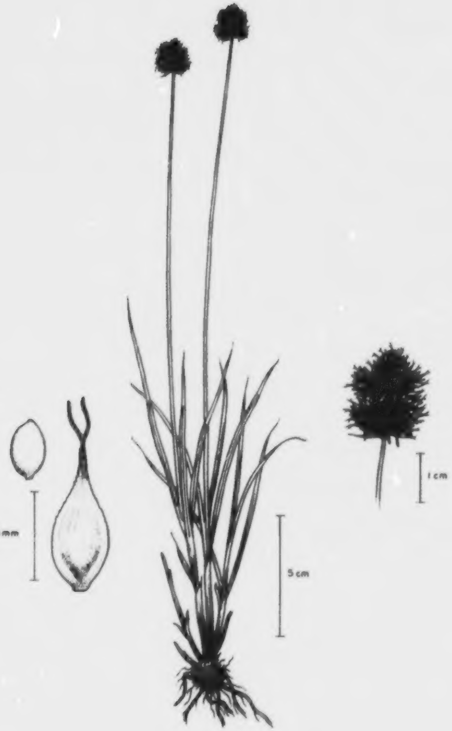
Open woods and streambanks at moderate elevations; British Columbia to Labrador, southward to California, Utah, Colorado, Iowa, Michigan and Pennsylvania; general in our area south of about Lat. 55° N. but less common east of the Rocky Mountains in British Columbia.

20. OVALES (I. Festivae)

40. *Carex haydeniana* Olney — Hayden's sedge

Densely caespitose, rootstocks short, dark, fibrillose. *Culms* up to 4 dm tall, slender, erect or decumbent, much exceeding the leaves. *Leaves* 3-5 to a culm, clustered near the base, rather firm, 1.5-4.0 mm wide, flat, roughened at the apex. *Spikes* 4-7, pistillate above, densely aggregated into a dense, triangular-ovoid head, broadest at the truncate base, 9-18 mm long, the erect or ascending perigynium-beaks conspicuous in the head; *lowest bract* scale-like or somewhat prolonged, normally much shorter than the head; *scales* ovate, acute, brownish-black or blackish with a lighter centre, shorter and much narrower than the perigynia; *perigynia* thin, very flat, membranous, except where distended over the achene, from broadly ovate to lanceolate, 4-6 mm long, greenish-straw-coloured and blackish or brownish-black, nerveless ventrally or occasionally nerved at the base, obscurely nerved dorsally, strongly winged to the spongy base, conspicuously doubly serrulate to below the middle, abruptly contracted into a conspicuous, slender, bidentate, dark-tipped,


BRITISH COLUMBIA
Hayden's sedge
(Carex haydeniana)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W



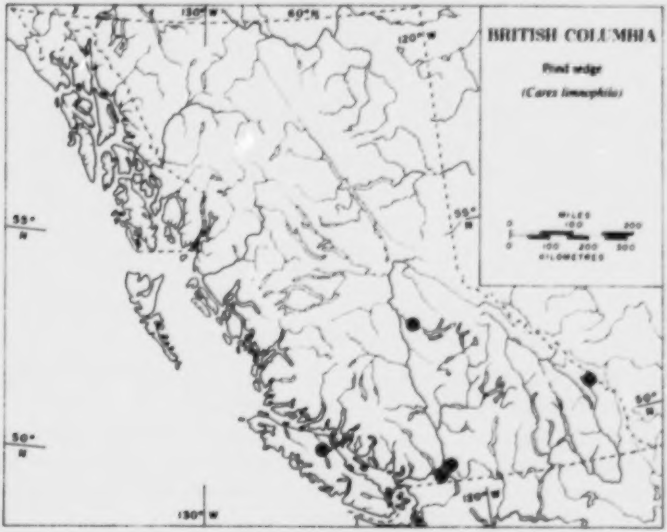
Hayden's sedge *(Carex haydeniana)*

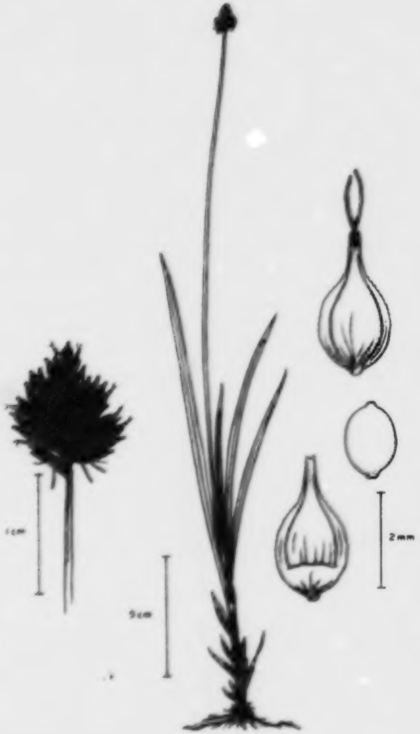
beak about half the length of the body; *achenes* lenticular, oblong-obovoid, 1.75 mm long, stipitate, apiculate; *stigmas* 2.

Rocky, especially alpine and subalpine slopes; southern British Columbia to southwest Alberta, south to Colorado, Utah, Arizona and California; known in British Columbia from the southern interior and the extreme southeastern corner of the province.

41. ***Carex limnophila* F.J. Herm.** **Pond sedge**

Caespitose. *Culms* up to 4.5 dm tall, exceeding the leaves, slender, smooth and obtusely triangular below, weakly scabridulous and sharply triangular below the heads. *Leaves* 3-5 to a culm, mostly on the lower half, flat, 1.5-3.5 mm wide; sheaths fragile, white-hyaline ventrally. *Spikes* 4-8, pistillate above, aggregated into an ovoid to oblong head up to 12 mm long, dull, dark-olive-brown to blackish-brown; *lowest bract* generally hair-like, about 10 mm long; *scales* lanceolate, short-acuminate, dark olive-brown, glossy, about as long as the body of the perigynium; *perigynia* thin, plano-convex to shallowly convex, ovate-lanceolate to narrowly lanceolate, 2.5-3.5 mm long, membranous, drab-brown ventrally, blackish-brown dorsally, obscurely nerved or nerveless dorsally, nerveless ventrally, generally with 1 or 2 conspicuous transverse folds across the centre of the body, strongly winged to the base, doubly serrate to below the middle, tapered or contracted into a slender beak about 1.5 mm long, the tip terete, barely bidentulate, hyaline; *achenes* lenticular; *stigmas* 2.



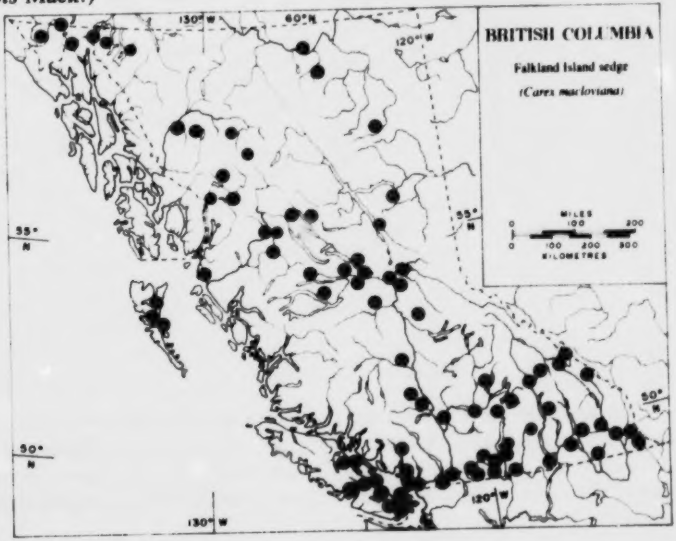


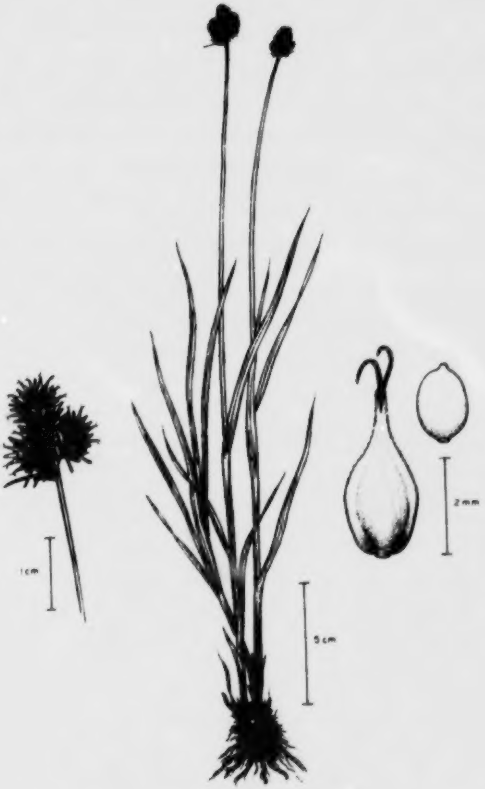
Pond sedge *(Carex limnophila)*

Stream banks and other moist to wet places at middle elevations in the mountains; British Columbia to Oregon, east to Alberta, Wyoming, Colorado and Nevada; very rare in British Columbia but known from central Vancouver Island and a few scattered collections in the southern interior.

42. *Carex macloviana* d'Urv. **Falkland Island sedge**

Densely caespitose, rootstocks short, blackish, fibrillose. *Culms* up to 10 dm tall, slender, conspicuously striate, much exceeding the leaves, old leaves conspicuous. *Leaves* 3-5 to a culm, on the lower third, usually not more than 4 mm wide, flat. *Spikes* 4-12, pistillate above, closely aggregated into a dense suborbicular or oblong head up to 2.5 cm long; staminate flowers inconspicuous, perigynia spreading-ascending, beaks conspicuous; *bracts* scale-like, or the lowest awned, *scales* ovate, acute chestnut-brown or blackish with a green or yellowish midrib, about as wide as the perigynia and nearly as long; *perigynia* plano-convex to concavo-convex, ovate, 3.5-5.0 mm long, thick, subcoriaceous, copper-coloured at maturity, narrowly wing-margined to a spongy base, serrulate above the middle, nerveless ventrally, several-nerved dorsally, rather abruptly tapering into a broad-based but slender beak less than half the length of the body, the tip long, terete, smooth, chestnut-brown, entire to shallowly bidentulate; *achenes* lenticular, short-oblong, substipitate, *stigmas* 2. (*C. pachystachya* Cham. *C. microptera Mack.* X., *C. platylepis* Mack.)


BRITISH COLUMBIA
Falkland Island sedge
(Carex macloviana)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W

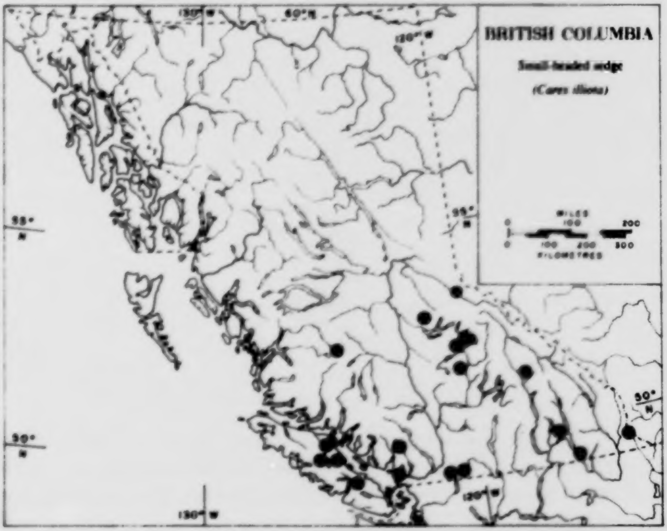


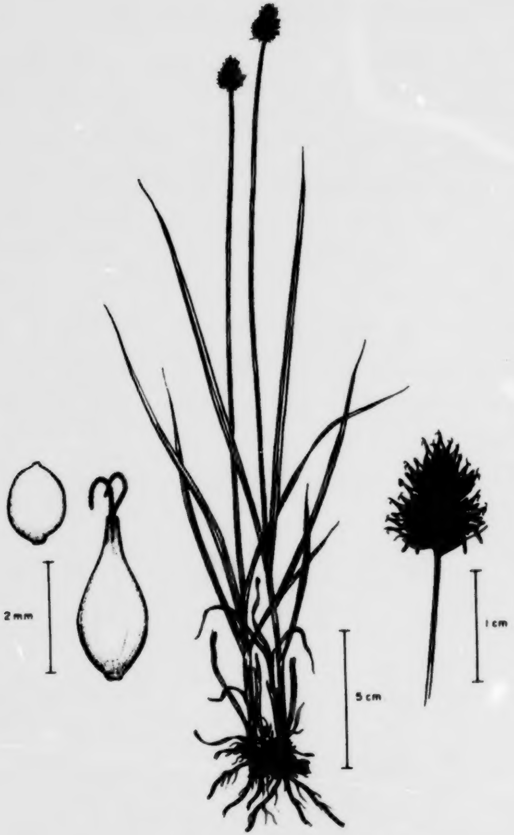
Falkland Island sedge *(Carex macloviana)*

Open, usualy dry but sometimes fairly wet situations from sea level to high montane; circumboreal; Alaska to California, east to southwestern Alberta, Montana, Idaho, Wyoming and Nevada; general throughout British Columbia.

43. *Carex illota* Bailey **Small-headed sedge**

Caespitose, matted, rootstocks short-creeping. *Culms* up to 3.5 dm tall, slender, stiff, much exceeding the leaves, roughened on the angles above. *Leaves* 2-5 to a culm, clustered near the base, 1-3 mm wide. *Spikes* 3-6, pistillate above, closely aggregated into a dense, blackish, suborbicular head, 6-15 mm long, the individual spikes with 5-15 ascending or spreading perigynia, beaks conspicuous; *lowest bract* hair-like, straw-coloured; *scales* broadly ovate, obtuse, blackish, centre yellowish-brown, margins very narrowly hyaline; half the length of the perigynia; *perigynia* plano-convex, 2.5-3.2 mm long, subcoriaceous, thick, ovate-lanceolate, sharp-edged to the base, not serrulate, blackish-brown above, straw-coloured and spongy below, very obscurely nerved on both faces, tapering into a bidentulate, smoothish beak about one-third the length of the body; *achenes* lenticular, broadly oval, yellowish-brown; *stigmas* 2.


BRITISH COLUMBIA
Small-headed sedge
(Carex illota)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
50° N
130° W
120° W



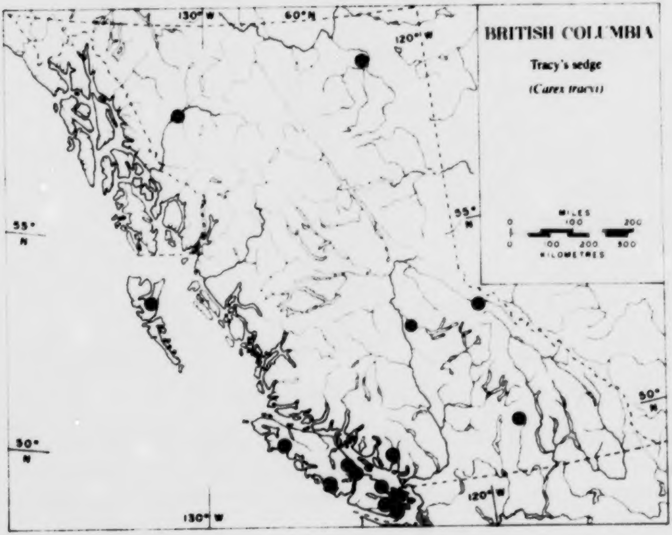
Small-headed sedge *(Carex illiota)*

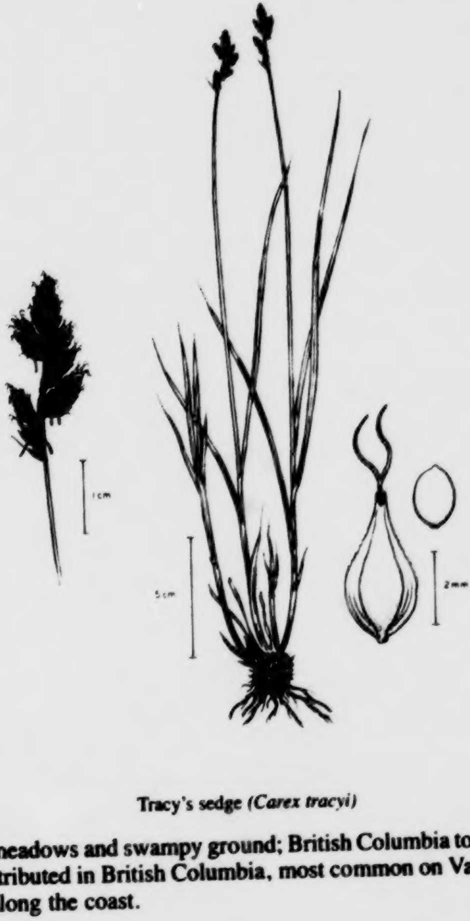
Mountain meadows, alpine tundra and boggy shores of mountain lakes from mid to high elevations; British Columbia to California, eastward to Montana, Wyoming and Colorado; known from the southern half of British Columbia.

20. OVALES (II Leporinae)

44. *Carex tracyi* Mack. **Tracy's sedge**

Caespitose, rootstocks short, black, fibrillose. *Culms* tufted, up to 8 dm tall, taller than the leaves, brownish-tinged at base, clothed with old leaves. *Leaves* 4-7 on the lower third of the culm, 2-4 mm wide, flat or channeled with revolute margins, stiff, roughened towards the attenuate apex. *Spikes* 4-7, pistillate above, in a head 1.5-4.0 cm long; *lowest bract* usually brown, cuspidate, the upper scale-like, greenish, much shorter than the spikes; *scales* acute, dull reddish-brown, margins white-hyaline, centre light, 1- to 3-nerved, conspicuously white at the tip, largely concealing the perigynia; *perigynia* numerous, 4-5 mm long, loosely appressed-ascending, flattened plano-convex, greenish or yellowish-brown, nerved on both faces, wing-margined, serrulate above, tapering into an entire bidentulate beak nearly as long as the body; *achenes* lenticular; yellowish-brown; *stigmas* 2. (*C. leporina* west. Am. auth.)


BRITISH COLUMBIA
Tracy's sedge
(Carex tracyi)
MILES
0 100 200
0 100 200 300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W

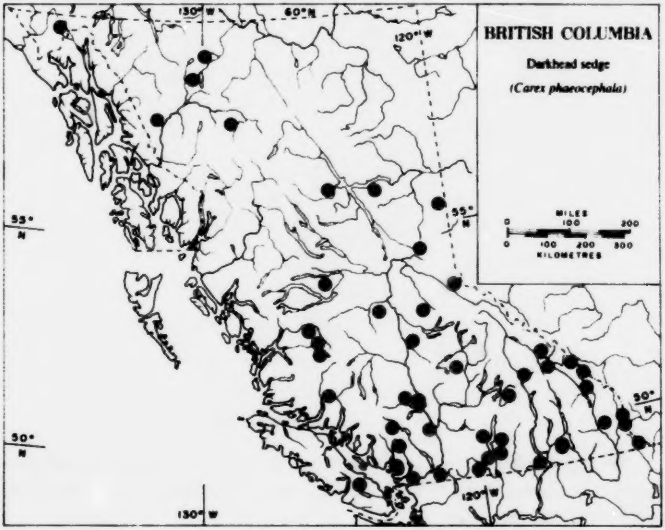


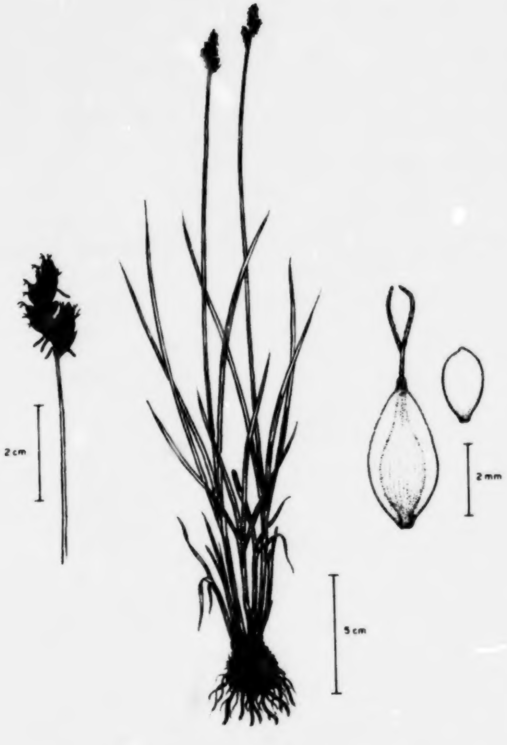
Tracy's sedge *(Carex tracyi)*

Wet meadows and swampy ground; British Columbia to California; widely distributed in British Columbia, most common on Vancouver Island and along the coast.

45. *Carex phaeocephala* Piper — Darkhead sedge

Densely caespitose in large clumps, rootstocks compactly matted. *Culms* up to 3 dm tall, slender, stiff, roughened above, exceeding the leaves. *Leaves* 3-6 to a culm, from near the base, channeled or involute, about 2 mm wide, stiff. *Spikes* usually 2-5, pistillate above, aggregated into a head 12-25 mm long, perigynia appressed-ascending, the beaks inconspicuous; *lowest bract* cuspidate, the upper scale-like; *scales* ovate, acute, brownish-black to reddish-brown, centre lighter, margins broad hyaline, as long and as wide as the perigynia and largely concealing them; *perigynia* 10-20 to a spike, concavo-convex, oblong-ovate, 4-6 mm long, straw-coloured to brownish-black, the margins green-winged to the base, serrulate above, dorsally several-nerved, almost nerveless to conspicuously nerved ventrally, abruptly contracted or tapering into a chestnut beak less than 1 mm long, serrulate below, terete, nearly smooth and strongly white-hyaline tipped; *achenes* lenticular, oblong-ovoboid, nearly sessile; *stigmas* 2.



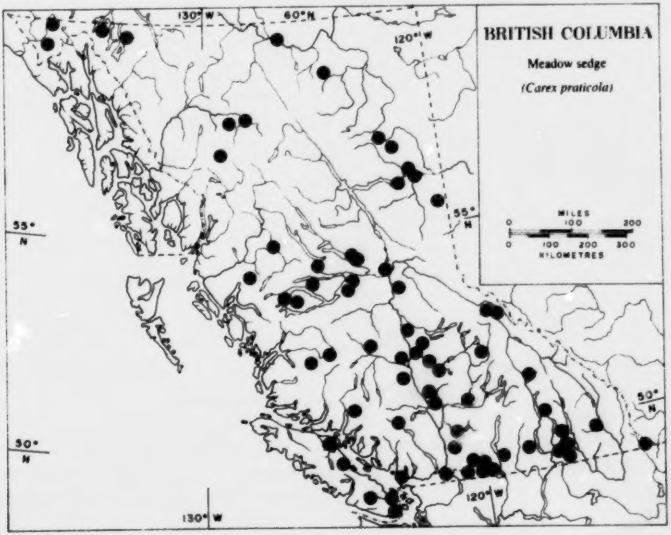


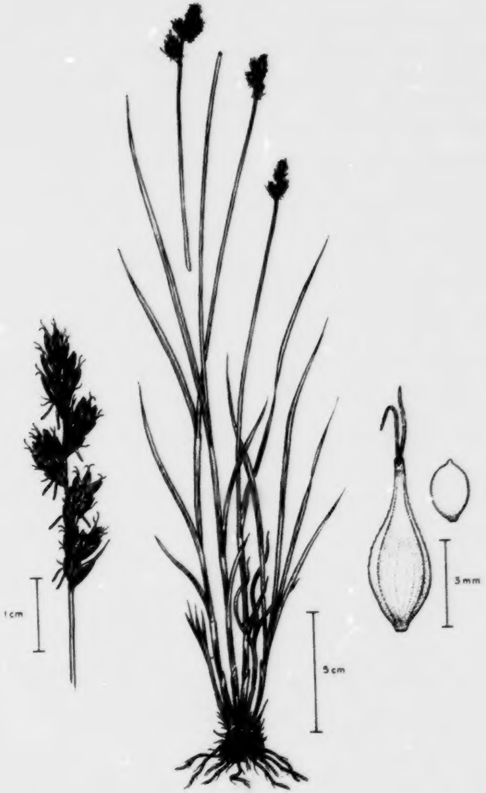
Darkhead sedge *(Carex phaeocephala)*

Rocky places at high altitudes, usually near or above timberline; British Columbia and Alberta, south to California and Colorado; common throughout British Columbia, except on Vancouver Island where it is rare.

46. *Carex praticola* Rydb. **Meadow sedge**

Caespitose in small clumps, rootstocks black, short. *Culms* up to 7 dm tall, flexuous, much taller than the leaves. *Leaves* 2-4 to a culm, from near the base, up to 3.5 mm wide, roughened on the margins and towards the tip. *Spikes* 2-7, pistillate above, distinct, approximate to moniliform, the loose head flexuous, perigynia appressed, their beaks erect-ascending; *bracts* scale-like or the lowest cuspidate; *scales* ovate, dull reddish-brown, centre green, margins broad silvery-white hyaline, as wide and as long as the perigynia concealing them; *perigynia* flattened-plano-convex, ovate-lanceolate, up to 6.5 mm long, pale green or whitish, glossy, wing-margined to the base, serrulate, lightly nerved dorsally, scarcely nerved ventrally, tapering into a serrulate, shallowly bidentate beak one-third to one-half the length of the body, the prolonged tip slender, light reddish-brown but conspicuously white-hyaline at the tip; *achenes* lenticular, ovoid, yellowish-brown; *stigmas* 2. (*C. pipen* Mack.)


BRITISH COLUMBIA
Meadow sedge
(Carex praticola)
MILES
0 100 200
0 100 200 300
KILOMETRES
130° W
60° N
120° W
55° N
50° N
120° W
130° W



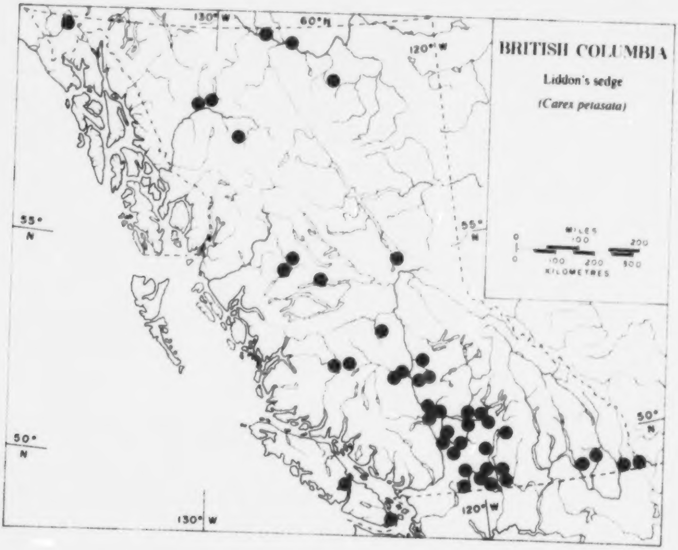
Meadow sedge *(Carex praticola)*

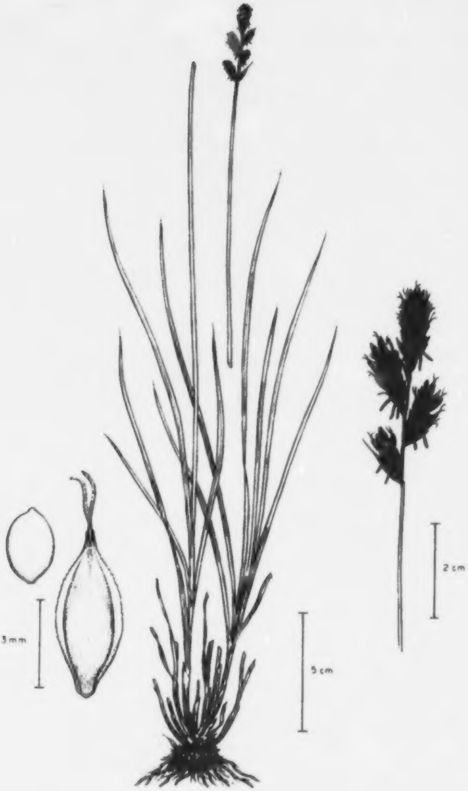
High mountain meadows, open woods and stream banks; Alaska to Labrador, south to California and Colorado; general throughout British Columbia.

20. OVALES (III Specificae)

47. *Carex petasata* Dewey **Liddon's sedge**

Caespitose, rootstocks short-prolonged. *Culms* up to 8 dm tall, smooth, exceeding the leaves. *Leaves* 2-5 to a culm, firm, flat, 3 mm or less wide. Spikes 3-6, pistillate above, aggregated into an erect head 2-4 cm long, the terminal often strongly clavate; *bracts* scale-like or the lowest prolonged; *scales* ovate, light reddish-brown, centre paler, margins broad, silvery-white-hyaline, about as long and as wide as the perigynia above and largely concealing them; *perigynia* numerous, plano-convex, oblong-lanceolate, widest near the top of the achene, up to 8 mm long, conspicuously dilated over the achene, submembranous, brownish-green to yellowish-brown, wing-margined, margins serrulate to below the middle, slenderly many-striate on both faces, tapering into a shallowly bidentate, reddish-brown-tinged beak about 2 mm long, serrulate below, smooth above, hyaline-tipped; *achenes* lenticular, oblong, about 3 mm long, brownish, glossy; *stigmas* 2.


130° W
60° N
120° W
BRITISH COLUMBIA
Liddon's sedge
(Carex petasata)
55° N
55° N
MILES
0
100
200
0
100
200
300
KILOMETRES
50° N
50° N
130° W
120° W



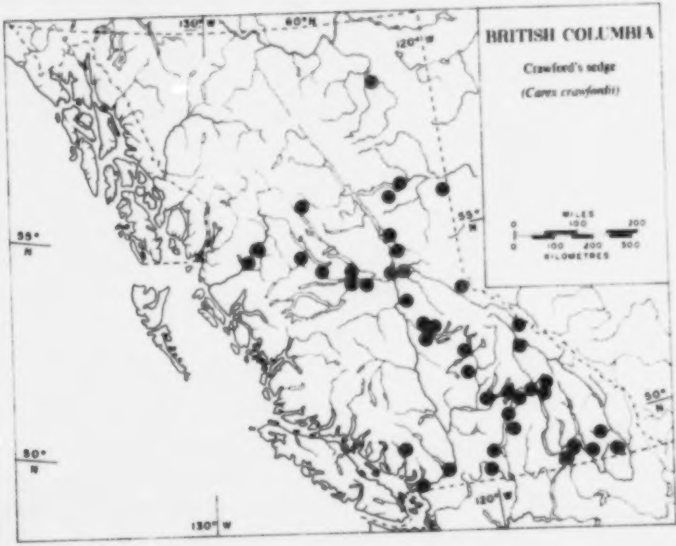
Liddon's sedge *(Carex petasata)*

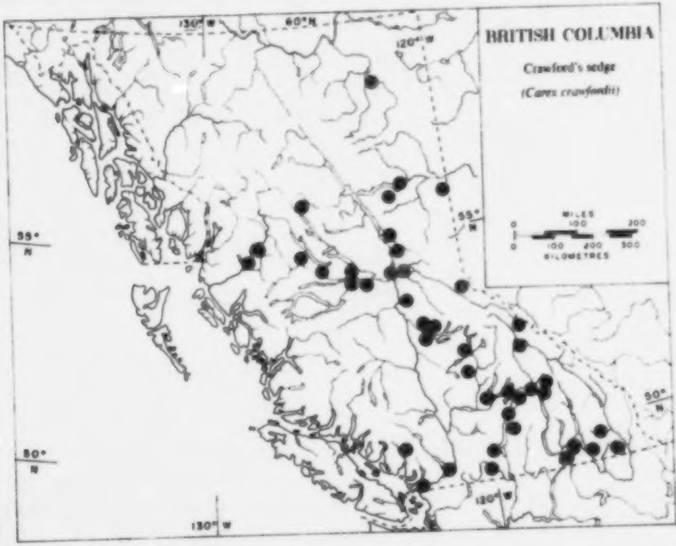
Rocky soil in open woods and mountain meadows; British Columbia to Saskatchewan, south to Oregon, Nevada, Utah and Colorado; scattered throughout British Columbia but most commonly in the dry, southern Interior.

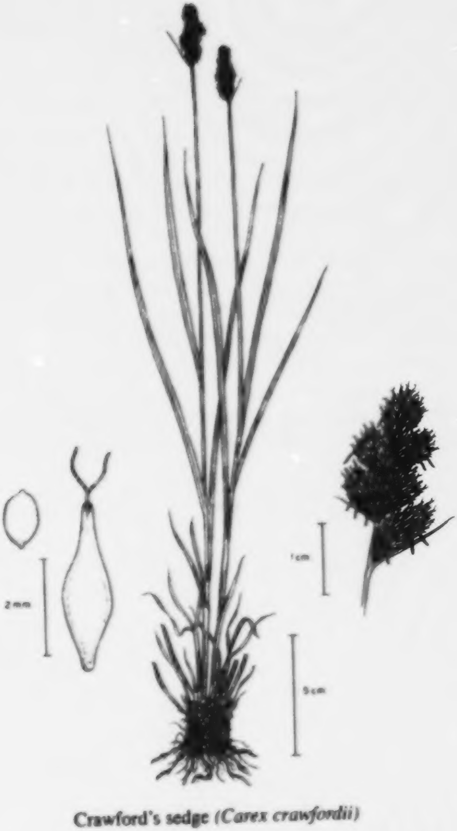
20. OCALES (IV Festucaceae)

48. ***Carex crawfordii*** **Fern.** **Crawford's sedge**

Densely caespitose, rootstocks short, dark, fibrillose. *Culms* up to 7 dm tall, rather stiff, exceeding or exceeded by the leaves. *Leaves* flat or nearly so, 1-3 mm wide, all on the lower part of the stem, firm, roughened towards the tip. *Spikes*3-15, pistillate above, rather closely aggregated into an oblong or linear-oblong, often somewhat flexuous, inflorescence, 12-30 mm long, perigynia erect-ascending, their beaks conspicuous, erect; *bracts* sheathless, short and inconspicuous, or the lowest sometimes prolonged up to about as long as the inflorescence; *scales* ovate, dull light brown with green centre which continues to the tip and may even be exserted as a short point, about as wide as but shorter than the perigynia; *perigynia* thin except where distended by the achene, slender, lanceolate-subulate, 3-4 mm long, brownish, very narrowly winged nearly to the base, serrulate above the middle, lightly several-nerved on both faces, tapering into a long, narrow, flat, serrulate, at







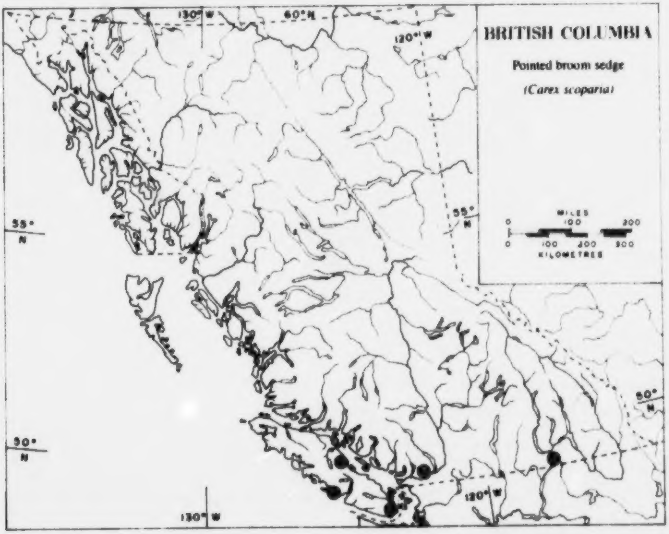
Crawford's sedge *(Carex crawfordii)*

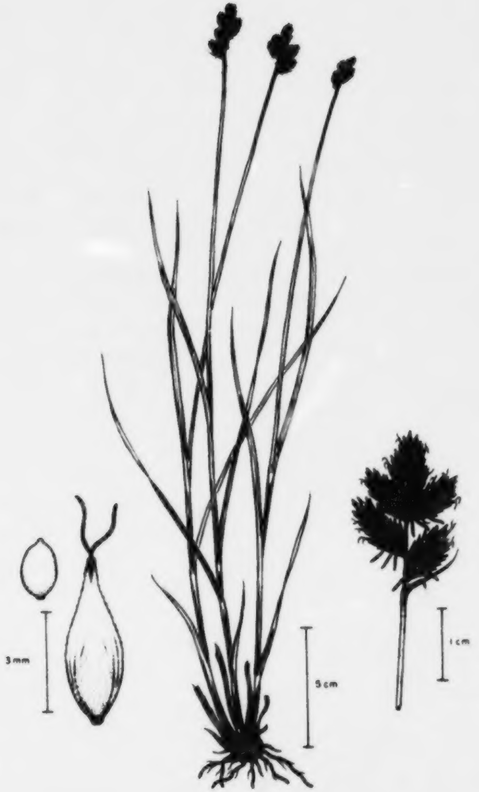
length bidentate, reddish-brown-tipped beak; *achenes* lenticular, oblong, brownish, short-stipitate; *stigmas* 2.

Open, wet situations mostly in humid regions at rather low elevations; Alaska to Newfoundland, south to Washington, Montana, Idaho, Michigan and New Jersey; general in British Columbia except on Vancouver Island and along the coast.

49. *Carex scoparia* Schkuhr **Pointed broom sedge**

Densely caespitose, rootstocks short, fibrillose. *Culms* up to 10 dm tall, usually much exceeding the leaves, sharply triangular, the angles very rought below the inflorescence, clothed with old leaves. *Leaves* 2-6, on the lower half, flat or channeled, 1-3 mm wide, yellowish-green. *Spikes* 3-12, distinct, aggregated into an oblong, linear-oblong or globose, head, sometimes a flexuous inflorescence, spikes pistillate above, straw-coloured, perigynia numerous, erect-ascending, with appressed-erect beaks; *lower bracts* small, bristle-shaped, the upper lacking; *scales* ovate or oblong-ovate, dull, light-brownish, centre green, 3-nerved, margins narrow, white-hyaline, nearly as wide as the perigynia but conspicuously exceeded by the beaks; *perigynia* numerous, flat, thin and scale-like, barely distended over the achene, 4-7 mm long, lanceolate to narrowly ovate-lanceolate, greenish-white to straw-coloured, wing-margined to the base, serrulate to below the middle, nerved on both faces, tapering into a flat, serrulate, shallowly bidentate beak 1.2-2.0 mm long; *achenes* lenticular, oval-oblong, brownish; *stigmas* 2.


BRITISH COLUMBIA
Pointed broom sedge
(Carex scoparia)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W

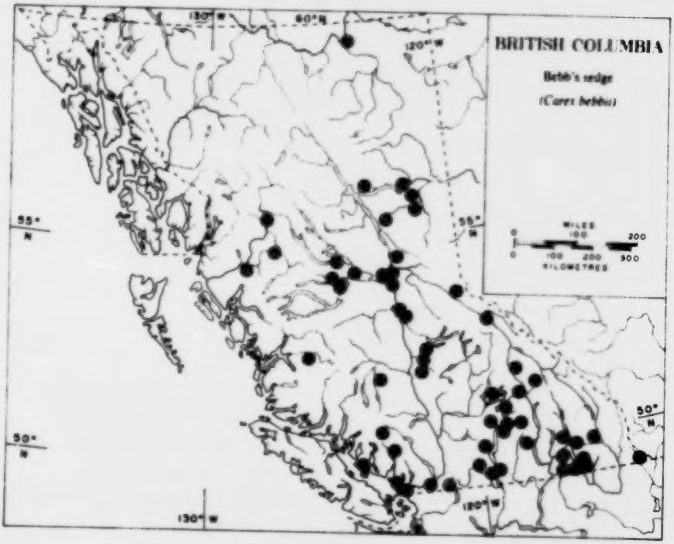


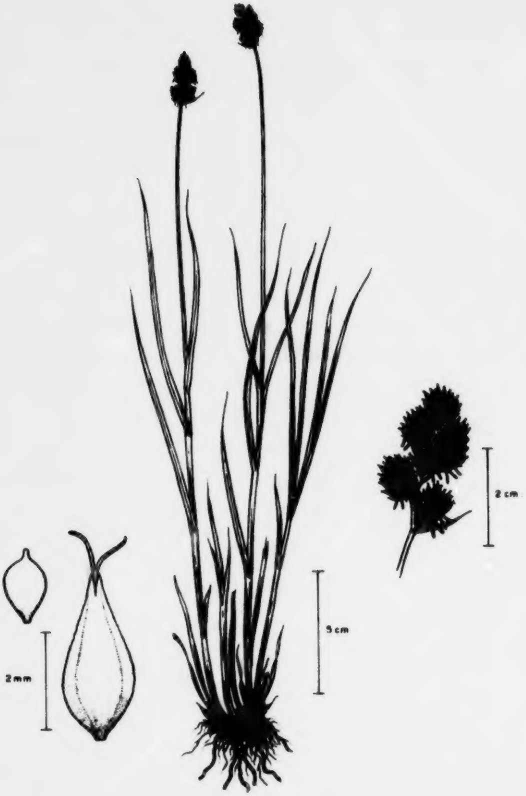
Pointed broom sedge *(Carex scoparia)*

Open, usually swampy places at low elevations; British Columbia to Newfoundland, southward to Oregon, New Mexico, Arkansas and South Carolina; very rare in British Columbia, known from southern Vancouver Island, and the adjacent mainland and Trail.

50. *Carex bebbii* Olney **Bebb's sedge**

Densely caespitose, rootstocks very short, black, fibrillose. *Culms* up to 9 dm tall, usually exceeding the leaves, roughened on the angles below the head, clothed with old leaves below. Leaves 3 or 4 to a culm, on the lower third, flat, 2.0-4.5 mm wide, roughened towards the tip. *Spikes* 3-12, pistillate above, rounded or truncate at the base, closely aggregated into an ovoid to linear-oblong head, 1.5-2.5 cm long, the numerous perigynia ascending, with conspicuous erect-ascending beaks; *lower bracts* small, setaceous, upper scale-like; *scales* oblong-lanceolate, brown with a lighter centre and occasionally with very narrow hyaline margins, nearly as wide as the perigynia below but only as long as their bodies; *perigynia* plano-convex, ovate, about 3 mm long, distended over the achene, dull-green to brownish, narrowly wing-margined to the base, serrulate to below the middle, finely many-nerved dorsally, nerveless ventrally or obscurely nerved at the base, tapering into a flat, serrulate, bidentulate beak, reddish-brown-tipped, nearly 1 mm long; *achenes* lenticular, broadly oval, short-stipitate; *stigmas* 2.



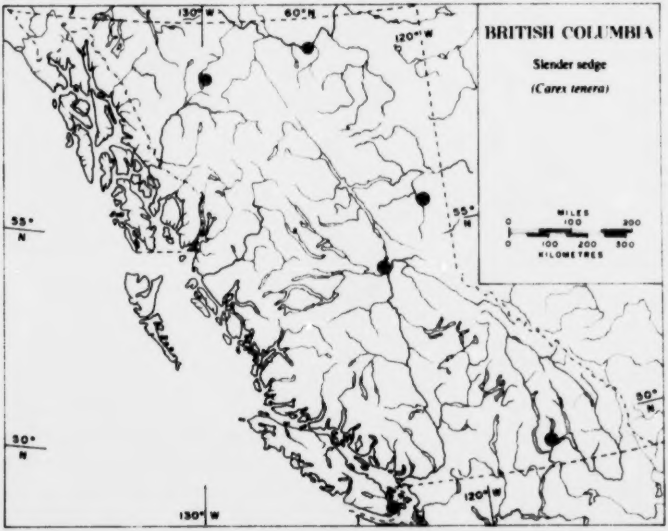


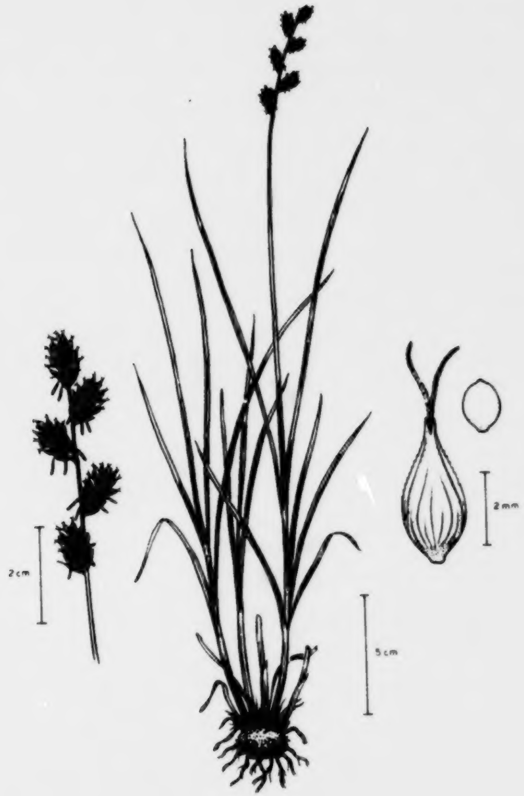
Bebb's sedge *(Carex bebbii)*

Wet places generally, meadows, streambanks, etc., from low to moderate elevations; British Columbia to Newfoundland, south to Oregon, Colorado, Idaho, Montana, Wyoming, Illinois and New Jersey; general in the interior of British Columbia south from about 55° N.

51. *Carex tenera* Dewey **Slender sedge**

Densely caespitose, rootstocks short, fibrillose. *Culms* slender, often nodding, up to 7.5 dm tall, much exceeding the leaves, roughened on the angles above. *Leaves* 3-5 to a culm, on the lower third, flat, up to 2.5 mm wide, sheaths tight, inconcspicuously septate-nodulose. *Spikes* 4-8, pistillate above, often clavate below, separated into a flexuous or nodding inflorescence, tips of the perigynia ascending or slightly spreading; *lowest bract* hair-like, the upper scale-like; *scales* ovate, acute to a soft tip, greenish-hyaline or tawny-tinged with a green centre, narrower and shorter than the perigynia; *perigynia* 3.5-4.5 mm long, plano-convex, thick, ovate, green to straw-coloured, clearly distended over the achene, narrowly winged to the base, serrulate to the middle, dorsally 5-9 nerved, ventrally nerveless or only faintly nerved, contracted into a flat, strongly serrulate, bidentulate beak about one-half the length of the body; *achenes* lenticular, broadly ovoid, 1.25 mm long, light brown; *stigmas* 2.


BRITISH COLUMBIA
Slender sedge
(Carex tenera)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
50° N
130° W
120° W
55° N
50° N

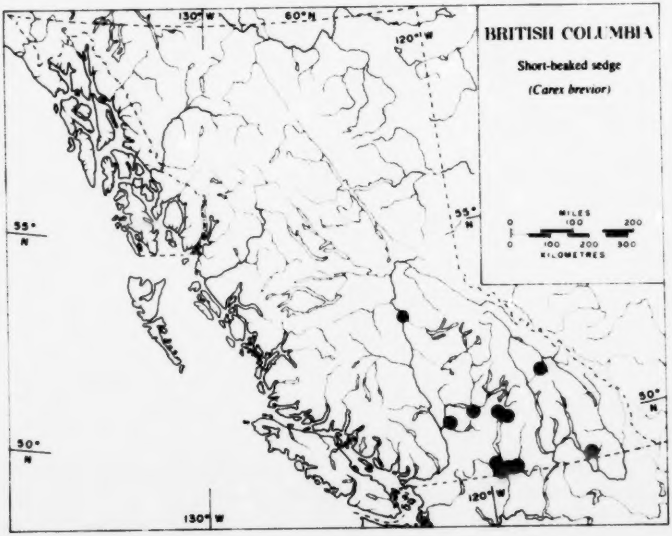


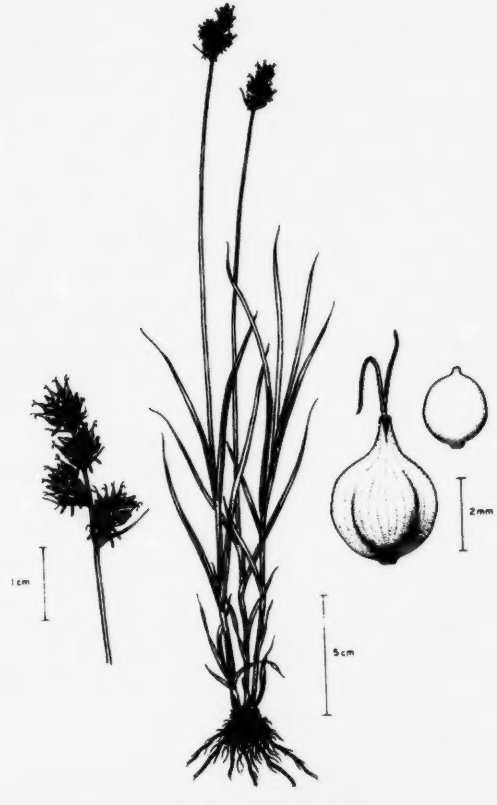
Slender sedge *(Carex tenera)*

Meadows and dry open woods at mid-elevations; British Columbia to Quebec, south to Wyoming, Illinois and North Carolina; very local in British Columbia with only a few scattered collections known.

52. *Carex brevior* (Dewey) Mackenzie **Short-beaked sedge**

Caespitose, rootstocks woody, black-fibrillose, short-prolonged. *Culms* up to 10 dm tall, sharply triangular, exceeding the leaves. *Leaves* 3-6 to a culm on the lower third, coarse, flat, sometimes channeled, 2-4 dm wide. *Spikes* 3-10, pistillate above, usually more or less clavate at the base, generally separated into a moniliform inflorescence but sometimes aggregated into a short head, perigynia with spreading-ascending beaks; *bracts* scale-like, sheathless, short, inconspicuous; *scales* ovate, acuminate, yellowish-brown with 3-nerved, green centres, margins narrowly hyaline; *perigynia* plano-convex, broadly ovate to suborbicular, 3.5-5.5 mm long, usually broadest near the middle, firm, coriaceous, green to greenish-white, strongly wing-margined to the rounded or subtruncate base, finely serrulate to below the middle, strongly from several- to many-nerved dorsally, nervelss or faintly few-nerved ventrally, winged, more or less abruptly narrowed into a flat, finely serrulate, strongly bidentate, reddish-tipped beak less than one-third the length of the body; *achenes* lenticular, orbicular, yellowish-brown; *stigmas* 2.





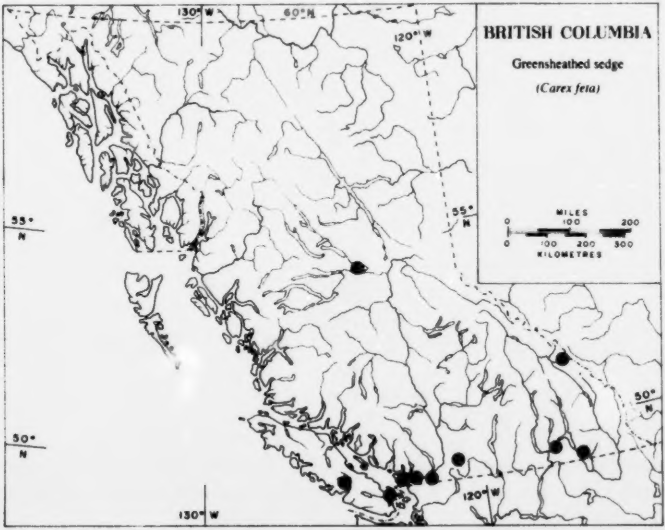
Short-beaked sedge *(Carex brevior)*

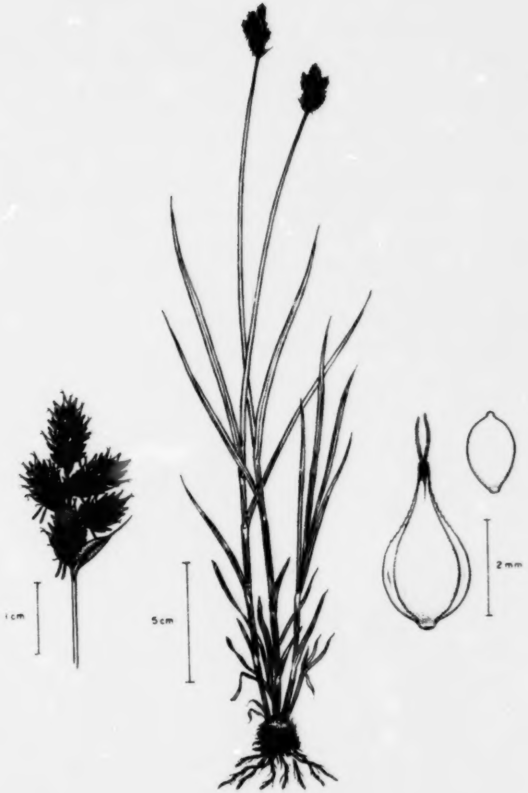
In a variety of open situations from moist to fairly dry, and up to moderate elevations in the mountains; British Columbia to Quebec, south to Oregon, Idaho, Arizona, Texas and Tennessee; known in British Columbia only from the south-central Interior.

20. OVALES (V Feta)

53. ***Carex feta*** **Bailey** **Greensheathed sedge**

Caespitose, densely tufted, rootstocks short, black. *Culms* uo to 11 dm tall, smooth or nearly so, brownish at base, clothed with old leaves. *Leaves* 3-6 to a culm, mostly on the lower half, evenly spaced not clustered, flat, 2.5-4.0 mm wide, stiffish, roughened towards the attenuate tip, sheaths green-striate ventrally. *Spikes* 5-15, pistillate above, 6-10 mm long, more or less aggregated into a head up to 8 cm long; *lowest bract* hair-like, the upper scale-like; *scales* obtuse or acute, light yellowish-brown or straw-coloured, margins hyaline with lighter midvein; staminate flowers few; *perigynia* numerous, about 3 mm long, appressed-ascending, flattened-plano-convex, membranous, yellowish-green, nerved dorsally, winged, serrulate above, tapering into a somewhat flattened, reddish-tipped beak nearly 1 mm long; *achenes* lenticular, yellowish-brown, substipitate, apiculate, *stigmas* 2. (*C. straminea* Willd. var. *mixta* Bailey)


BRITISH COLUMBIA
Greensheathed sedge
(Carex feta)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W



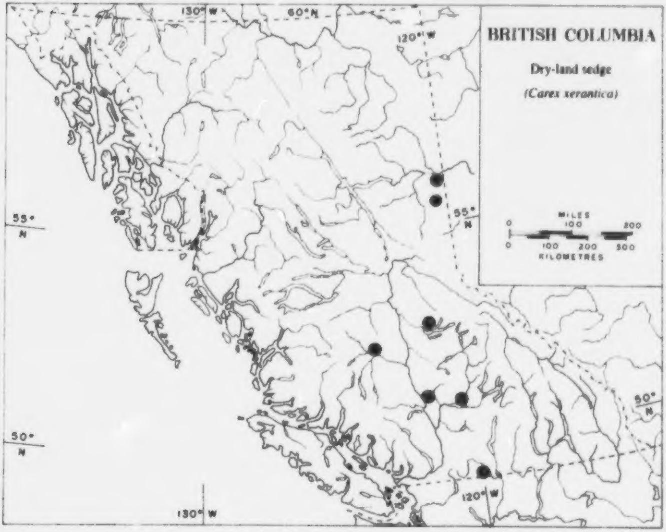
Greensheathed sedge *(Carex feta)*

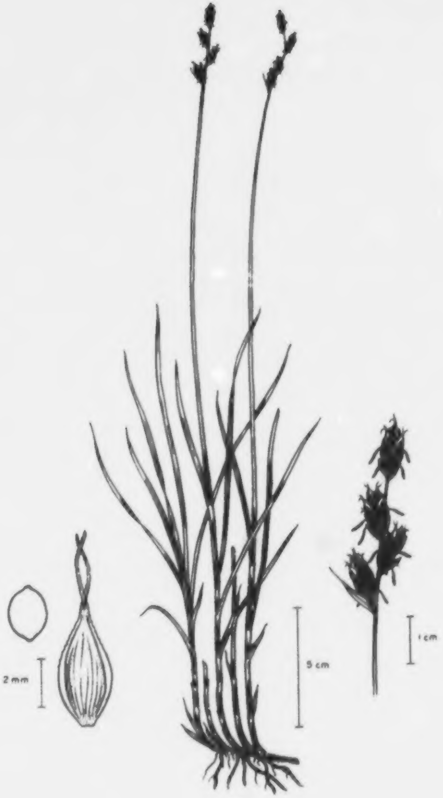
Wet places generally at low to moderate elevations; southwestern British Columbia to southern California, west of the Cascade and Sierra Mountains; known in British Columbia mostly from the extreme southern part of the province.

20. OVALES (VI Foeneae)

54. *Carex xerantica* Bailey **Dry-land sedge**

Caespitose; rootstocks fibrillose, short-creeping. *Culms* stiffly erect, up to 6 dm tall, much longer than the leaves. *Leaves* 2 or 3 to a culm, flat, firm, 2-3 mm wide. *Spikes* 3-6, pistillate above, somewhat aggregated but distinct, forming an elongated inflorescence; *lowest bract* somewhat prolonged, not conspicuous; *scales* ovate, thin, light reddish-brown, centre green, margins white-hyaline, nearly concealing the perigynia until mature; *perigynia* flat, ovate, 4-6 mm long, 2.0-2.5 mm wide, usually broadest below the middle, greenish, straw-coloured or pale brown, broadly winged to the base, serrulate to below the middle, lightly-nerved dorsally, nerveless or nearly so ventrally, tapering into a broad, flat, serrulate, bidentate beak about 1 mm long, reddish-brown at the tip; *achenes* lenticular, somewhat quadrangular; *stigmas* 2.


BRITISH COLUMBIA
Dry-land sedge
(Carex xerantica)
130° W
60° N
120° W
55° N
50° N
MILES
0 100 200
0 100 200 300
KILOMETRES

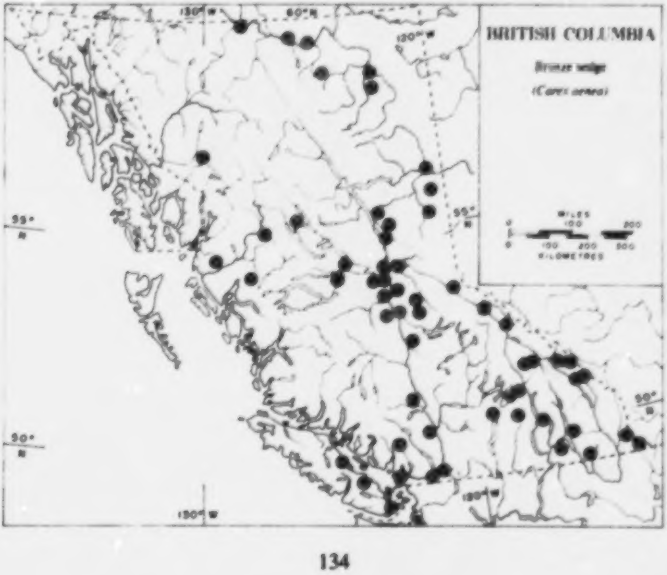


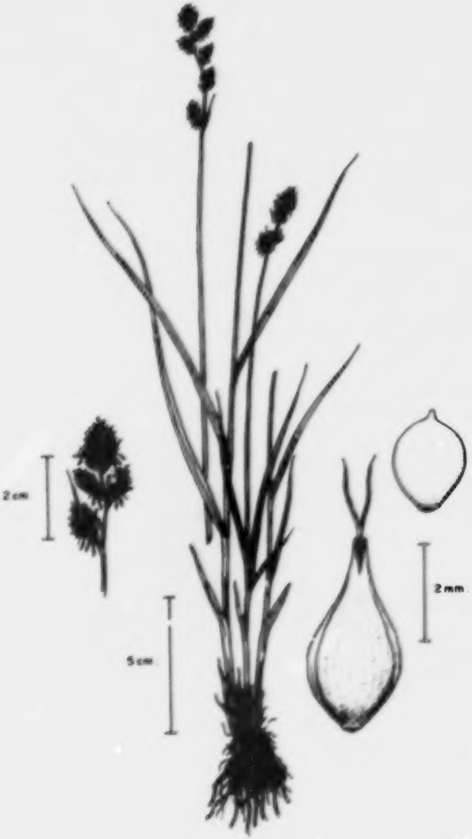
Dry-land sedge *(Carex xerantica)*

Open grasslands; British Columbia to Manitoba, south to New Mexico, South Dakota and Minnesota; known in British Columbia from a few collections in the dry interior.

55. *Carex aenea* Fern **Bronze sedge**

Caespitose, rootstocks short, black fibrillose. *Culms* up to 12 dm tall, slender, smooth, wiry, nodding, exceeding the leaves. *Leaves* 3-6 to a culm on its lower half, soft, flat, 2-4 mm wide. *Spikes* 3-10, pistillate above, in a flexuous, moniliform inflorescence 1.5-7.0 cm long, most of the spikes clavate-based, the perigynia ascending; *bracts* sheathless, short and inconspicuous, or the lowest somewhat hairlike and prolonged but shorter than the inflorescence; *pistillate scales* ovate, dull- or yellowish-brown, margins scarious hyaline, as large as the perigynia and concealing them; *perigynia* plano-convex, ovate, about 5 mm long, thickish, wing-margined to the base, serrulate to the middle, several-nerved dorsally, nerveless or nerved only at the base ventrally, tapering into a flat, serrulate, reddish-brown-tipped, bidentate beak about half the length of the body; *achenes* lenticular, broadly oval, about 2.0 mm long; *stigmas* 2.


BRITISH COLUMBIA
Bronze sedge
(Carex aenea)
130° W
60° N
120° W
55° N
55° N
50° N
50° N
130° W
120° W
MILES
0
100
200
100
200
300
KILOMETRES



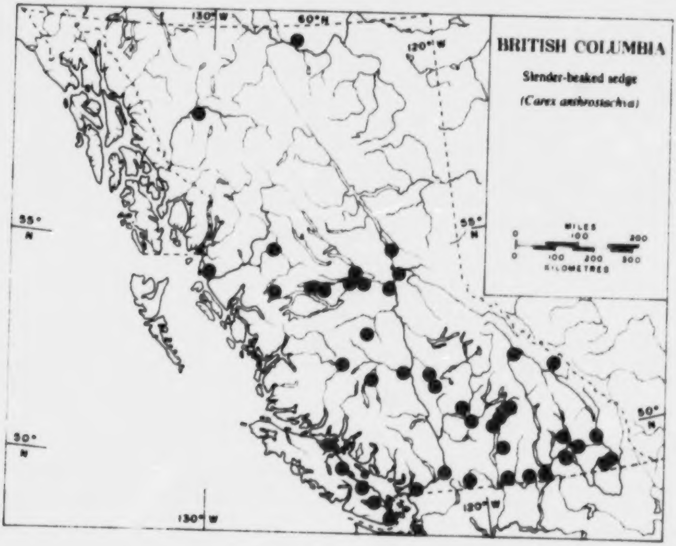
Bronze sedge *(Carex aenea)*

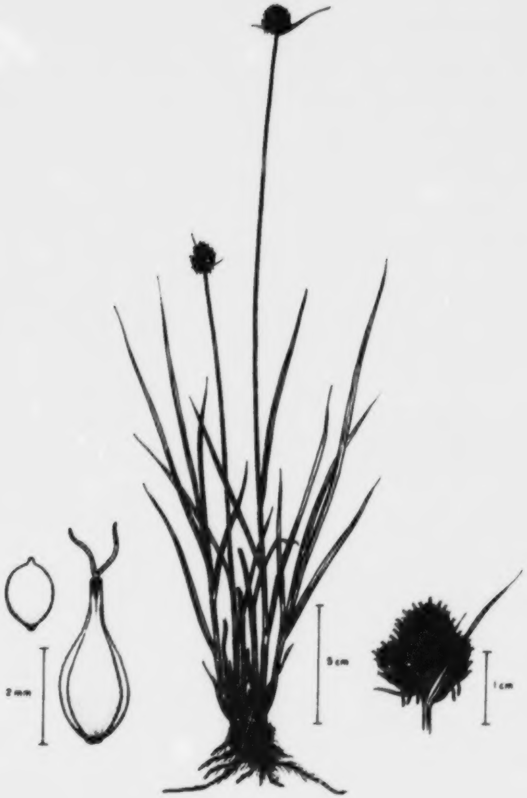
Dry soil in open woods, sandy and gravelly places; Labrador to Connecticut, west to Yukon, British Columbia, Montana and Idaho; general throughout British Columbia.

20. OVALES (VII Athrostachyae)

56. *Carex athrostachya* Olney **Slender-beaked sedge**

Caespitose, rootstocks fibrillose, short-prolonged. *Culms* up to 6 dm tall, slender, more or less exceeding the leaves. *Leaves* 2-4 to a culm, usually clustered on the lower third, blades flat, 1.5-5.0 mm wide, firm, yellowish-green. *Spikes* pistillate above, 4-20, aggregated into a head, 1-2 cm long, or the lowest somewhat separated, perigynia appressed-ascending; *lower bracts* usually strongly developed, exceeding the head, the upper scalelike; *scales* oblong-ovate, acute or short-cuspidate, brownish with green centre and white-hyaline margins, somewhat shorter and narrower than the perigynia; *perigynia* lanceolate-ovate, 3-5 mm long, flat except where distended over the achene, membranous, lightly several-nerved on both faces or nerveless ventrally, light-green to straw-coloured or brownish, wing-margined nearly to the base, upper half strongly ciliate-serrulate, tapering into a shallowly bidentate beak; *achenes* lenticular, oblong-oval; *stigmas* 2.


130° W
60° N
120° W
BRITISH COLUMBIA
Slender-beaked sedge
(Carex athrostachya)
MILES
0
100
200
0
100
200
300
KILOMETRES
55° N
55° N
50° N
50° N
130° W
120° W

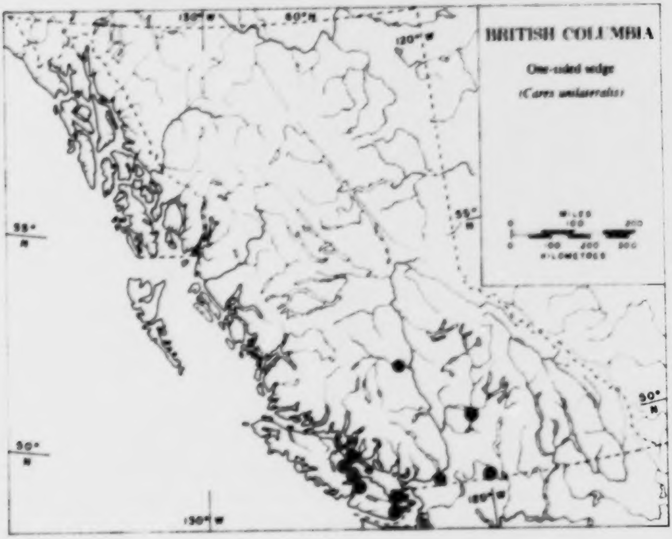


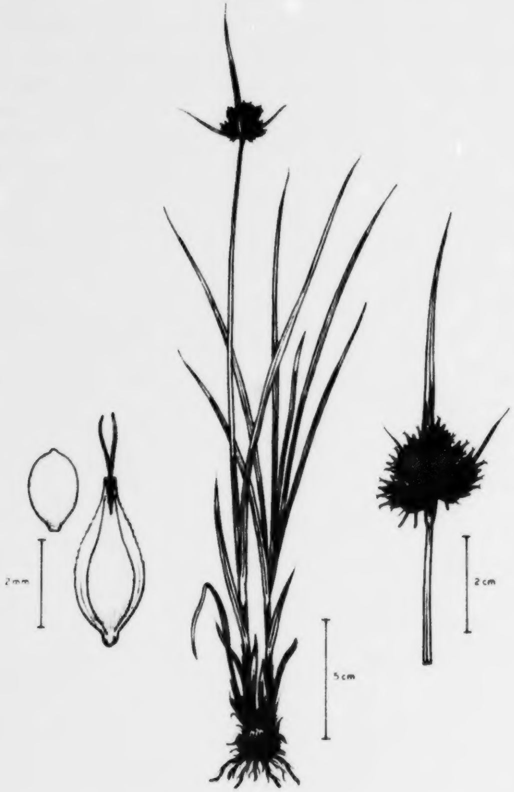
Slender-beaked sedge *(Carex anthrostachya)*

Damp or wet places from low to moderately high elevations; Alaska to Saskatchewan, southward to California, Colorado, Arizona and North Dakota; general throughout British Columbia.

57. *Carex unilateralis* Mack. **One-sided sedge**

Densely caespitose, rootstocks short, black, fibrillose. *Culms* up to 9 dm tall, mostly taller than the leaves, brownish at base, clothed with old leaves. *Leaves* 3-5 to a culm, on the lower third, 2-4 mm wide, flat, yellowish-green. *Spikes* many, pistillate above, closely crowded in a head 1-3 cm x 1-2 cm; *lowest bract* conspicuously exceeding the head, appearing like a prolongation of the culm, one or more of the upper bracts often somewhat prolonged as well; *scales* acuminate or aristate, reddish-brown, margins hyaline, centre green, 3-nerved; narrower and frequently shorter than the perigynia; staminate flowers not conspicuous; *perigynia* numerous, 4-5 mm long, appressed-ascending, flat, distended over the achene, membranous, light-green or straw-coloured, lightly several-nerved dorsally, few-nerved or nerveless ventrally, wing-margined, serrulate, spongy at base, beak flat, serrulate, bidentate, reddish-brown-tipped; *achenes* about 2 mm long, lenticular, yellowish, stipitate, apiculate; *stigmas* 2.


BRITISH COLUMBIA
One-sided sedge
(Carex unilateralis)
MILES
0 100 200
0 100 200 300
KILOMETRES
60° N
130° W
120° W
55° N
50° N



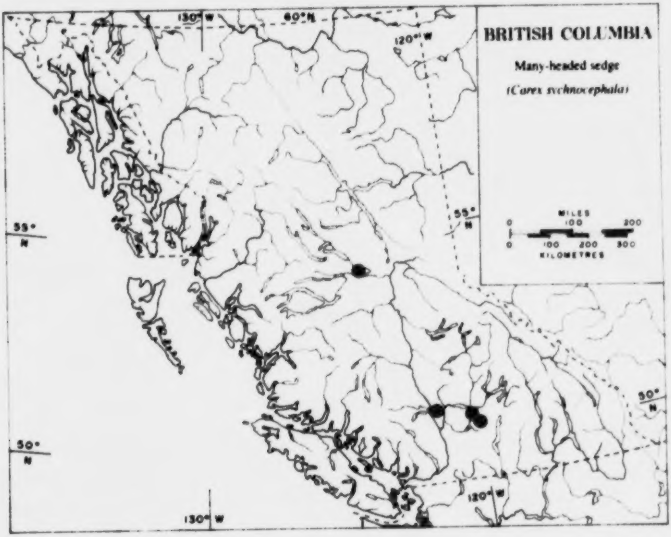
One-sided sedge ***(Carex unilateralis)***

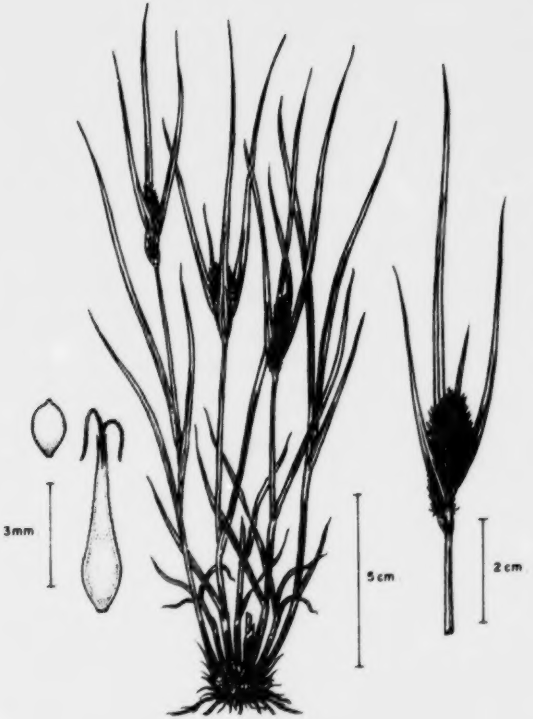
Damp or wet places mostly west of the coast mountains; British Columbia to the Columbia Gorge; in British Columbia, except for two collections in the southern interior, known only from southern Vancouver Island.

20. OVALES (VIII Cyperoideae)

58. ***Carex sychnocephala*** **Carey** **Many-headed sedge**

Caespitose, rootstocks very short, black, fibrillose. *Culms* up to 6 dm tall, slender, more or less equalling the leaves, clothed with a few old leaves. *Leaves* 2-5 to a culm, scattered on the lower half, flat, thin, soft, light-green, roughened on the margins, 1.5-4.0 mm wide. *Spikes* 4-15, pistillate above, densely aggregated into an ellipsoid or ovoid head 1.5-3.0 cm long, perigynia numerous, appressed-ascending with conspicuous beaks; *bracts* dimorphic, the lower 2-4 leaf-like and elongate, many times exceeding the head and forming a conspicuous involucre, dilated and sheathless at the base, the upper short-awned or scale-like; *scales* lanceolate, greenish-white, margins hyaline, centre green, about half the length of the perigynia, largely concealed by them; *perigynia* flat, scale-like, distended over the achene, membranous, subulate-lanceolate, 5.0-6.5 mm long, greenish to straw-coloured, very narrowly wing-margined to the base, serrulate, obscurely several-nerved on both faces, tapering


BRITISH COLUMBIA
Many-headed sedge
(Carex sychnocephala)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W



Many-headed sedge *(Carex sychnocephala)*

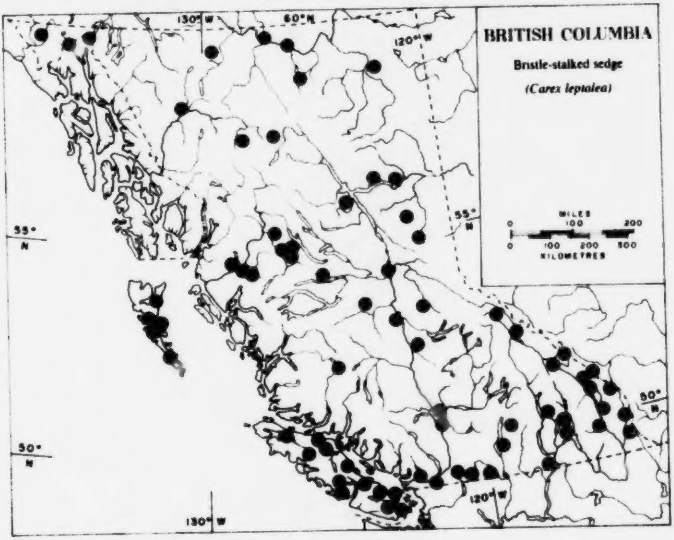
into a flat, sharply bidentate beak 2 or 3 times the length of the body; *achenes* lenticular, oval, glossy, yellowish-brown; *stigmas* 2.

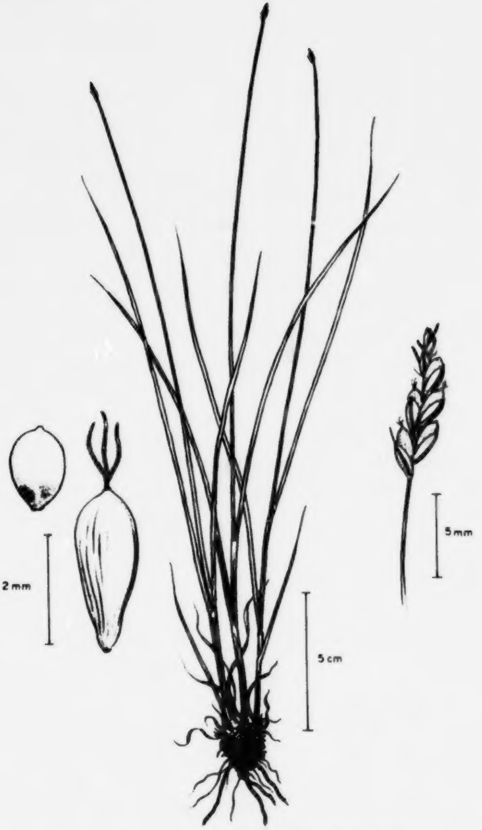
Wet meadows, lake shores and open wet woods; British Columbia to Ontario, southward to Washington, Montana, Colorado, South Dakota, and New York; very local in British Columbia, known only in the central interior.

21. POLYTRICHOIDAE

59. *Carex leptalea* Wahl. **Bristle-stalked sedge**

Densely caespitose, rootstocks slender, somewhat elongate. *Culms* slender, erect but flaccid, up to 7 dm tall, mostly exceeding the leaves. *Leaves* usually 2 to a culm on its lower fourth, not more than 1.5 mm wide, flat or channeled, thin, soft, lax, deep green. *Spike solitary*, staminate above, linear-oblong, erect, 4-16 mm long; the terminal staminate portion short; *bracts* lacking; *staminate scales*, obtuse to somewhat acute, connate below, appressed, yellowish-green, the sharp midrib green, more or less tinged with reddish-brown; *pistillate scales* yellowish-green to pale-brown, ovate-orbicular and obtuse to lanceolate, attenuate-cuspidate or awned, the awn sometimes prolonged to exceed the head; *perigynia* few, subalternate, closely appressed, oval-elliptic, orbicular or flattened-orbicular in cross-section, somewhat 2-edged, 2.5-5.0 mm long, the upper part empty, membranous, finely many-striate, pale- or yellowish-green, spongy at the base, tapering to a blunt, beakless


BRITISH COLUMBIA
Bristle-stalked sedge
(Carex leptalea)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
130° W
120° W



Bristle-stalked sedge *(Carex leptalea)*

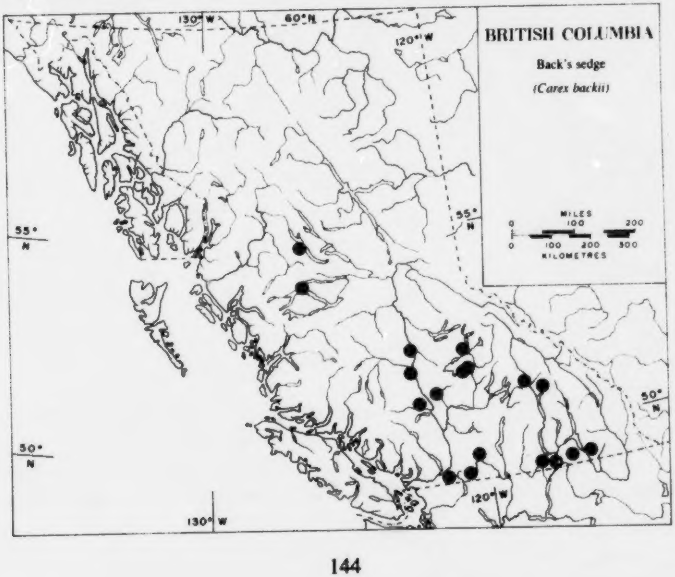
apex, mostly longer than the early deciduous scales; *achenes* oblong-obovoid, trigonous, yellowish to brownish, glossy; *stigmas* 3.

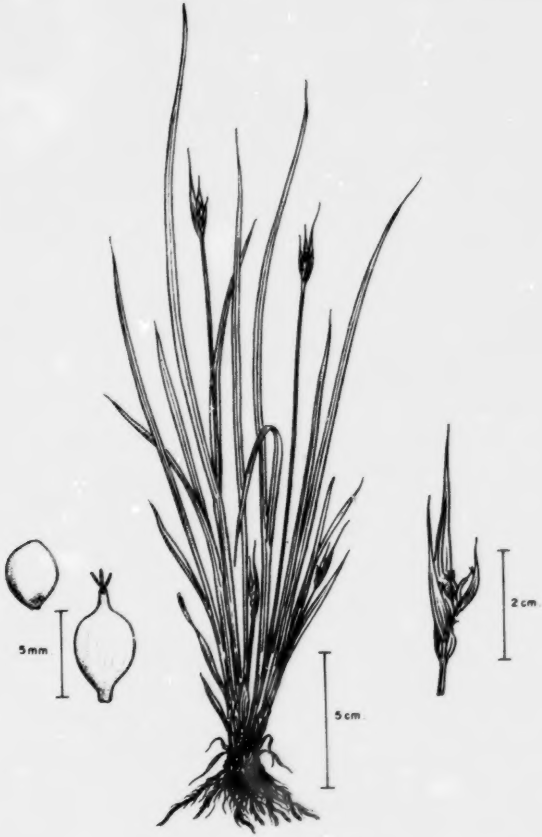
Wet meadows and bogs from low to mid elevations; Alaska to Labrador, south to California, Colorado, Texas, and Florida; general through British Columbia.

22. PHYLLOSTRACHYAE

60. *Carex backii* Boott **Back's sedge**

Caespitose, rootstocks very short. *Culms* slender, weak, mostly exceeded by the leaves, very unequal in length, narrowly winged, markedly triangular, serrulate on the angles. *Leaves* 2-6 to a culm, clustered near the base, flat, up to 6 mm wide. *Spikes* staminate above, 1-3, widely separate, the lower nearly basal and long-peduncled, staminate part inconspicuous; *scales of staminate flowers* obtuse to cuspidate, white with a green centre, tawny at the tip; *scales of the pistillate* flowers bract-like or leaf-like, many-nerved, long-tapering, exceeding and concealing the erect perigynia; *perigynia* 2-5, oblong-ovoid, about 5.5 mm long, the body oblong-orbicular, 3 mm long, glabrous, substipitate, contracted into a broad, spongy base, 2-keeled, faintly many-nerved, upper third empty and tapering into a stout, 2-edged beak nearly as long as the body, margins decurrent on the body, apex truncate, entire; *achenes* triangular-globose, closely enveloped, yellowish-green to blackish, granular, stipitate, jointed with the deciduous style; *stigmas* 3.


130° W
60° N
120° W
BRITISH COLUMBIA
Back's sedge
(Carex backii)
MILES
0
100
200
0
100
200
300
KILOMETRES
55° N
55° N
50° N
50° N
120° W
130° W



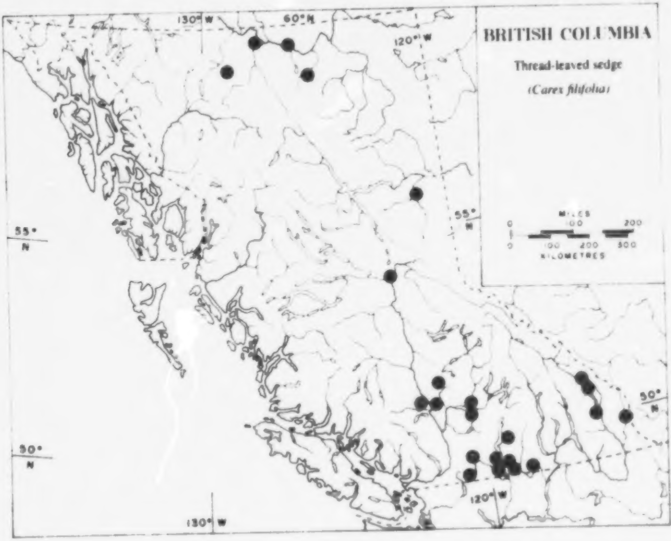
Back's sedge *(Carex backii)*

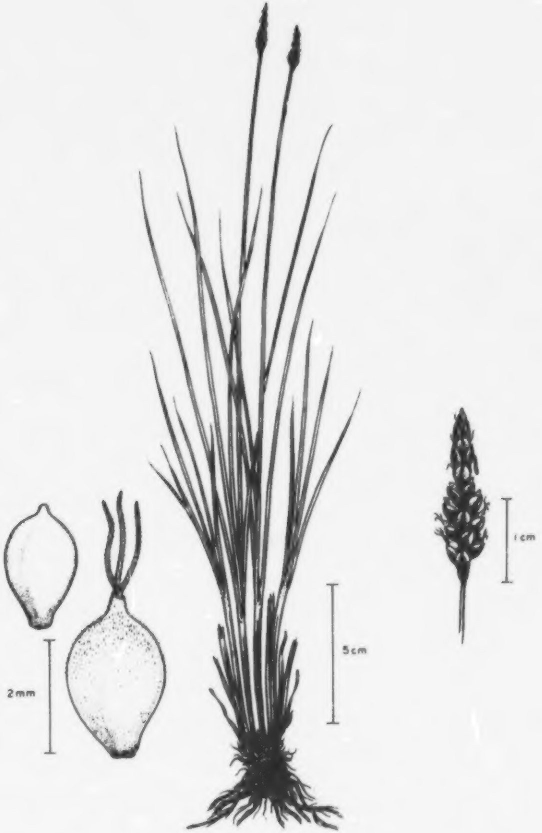
Damp, often somewhat shady places such as woods, from low to moderate altitudes; British Columbia to Quebec, south to Oregon, Utah, Wyoming, Colorado, New York and Massachusetts; in British Columbia found mainly in the southern interior.

23. FILIFOLIAE

61. *Carex filifolia* Nutt. **Thread-leaved sedge**

Densely caespitose, rootstocks short, blackish, stout. *Culms* filiform, stiff, wiry, up to 3 dm tall, about the length of the leaves, old basal sheaths conspicuous, striate, usually strongly filamentose. *Leaves* 2 or 3 to a culm, clustered near the base, involute, wiry, stiff, acicular, culmlike. Bracts lacking. *Spike* solitary, staminate above, linear, erect, 1-3 cm long, the lower with 5-15 erect-ascending perigynia; *pistillate scales* broadly obovate, obtuse, occasionally mucronulate, the bright margins white-hyaline, very broad and conspicuous, larger than and entirely concealing the perigynia until maturity; *perigynia* obovoid to obovoid-orbicular, 3-4 mm long, obscurely 2-ribbed, otherwise nerveless or nearly so, puberulent above, dull whitish or straw-coloured, truncately narrowed into a minute, stoutish, hyaline beak; *achenes* obovoid, trigonous, tapering at the base; *stigmas* 3.


BRITISH COLUMBIA
Thread-leaved sedge
(Carex filifolia)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W



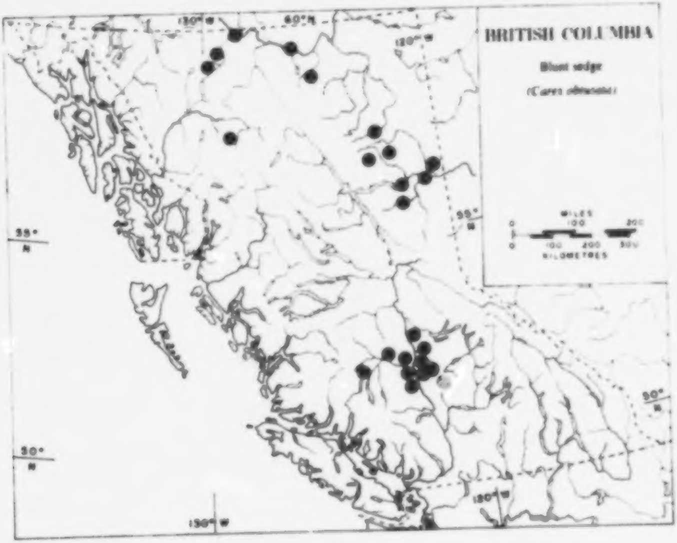
Thread-leaved sedge *(Carex filifolia)*

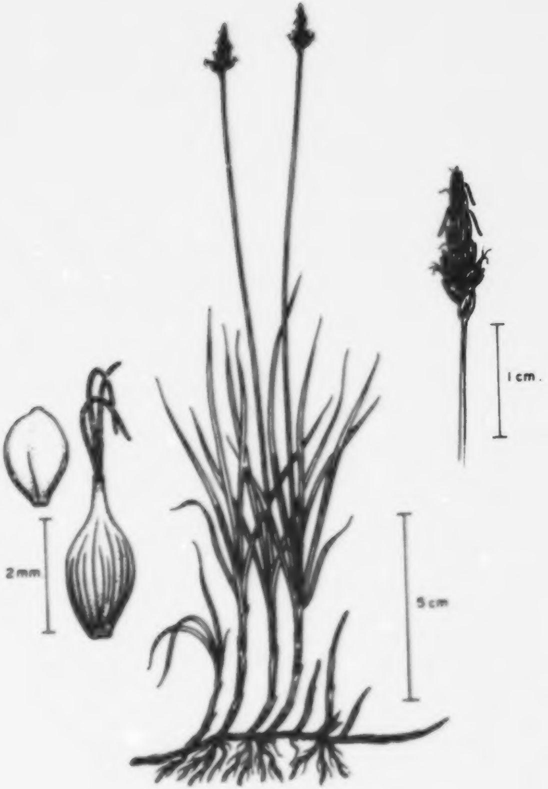
Open, usually dry, places, often with sagebrush and grasses; Yukon to Manitoba, southward to California, Arizona and Texas; known in British Columbia mainly from the southern Interior with a few collections from the extreme north.

24. OBTUSATAE

62. *Carex obtusata* Lilj. **Blunt sedge**

Rootstocks slender, long-creeping, purple-black. *Culms* 1-3 together in rows, up to 20 cm tall, slender, exceeding the leaves, old leaves conspicuous. *Leaves* several to a culm from near the base, flat, about 1 mm wide, stiff, short-attenuate at the tip. *Spike* solitary, staminate above, 5-12 mm long, the upper two-thirds staminate, perigynia 6 or fewer, spreading-ascending; *bractless*; *pistillate scales* ovate to ovate-lanceolate, acuminate or cuspidate, thin, pale brown, margins hyaline, from a little shorter to a little longer than the perigynia; *perigynia* dark-chestnut or blackish-brown, glossy, oblong-obovoid, 3-4 mm long, coriaceous, scarcely inflated, obscurely to conspicuously ribbed and sulcate, tapering above into a short, smooth, hyaline-tipped and minutely bidentulate beak; *achenes* trigonous, oblong-obovoid, yellowish-brown; *stigmas* 3.


BRITISH COLUMBIA
Blunt sedge
(Carex obtusata)
MILES
0 100 200
0 100 200 300
KILOMETRES
130°W
60°N
120°W
55°N
50°N



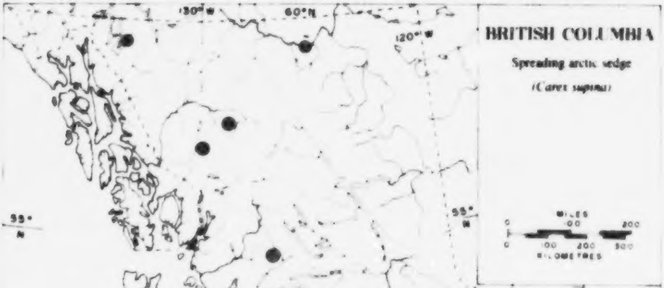
Blunt sedge *(Carex obtusata)*

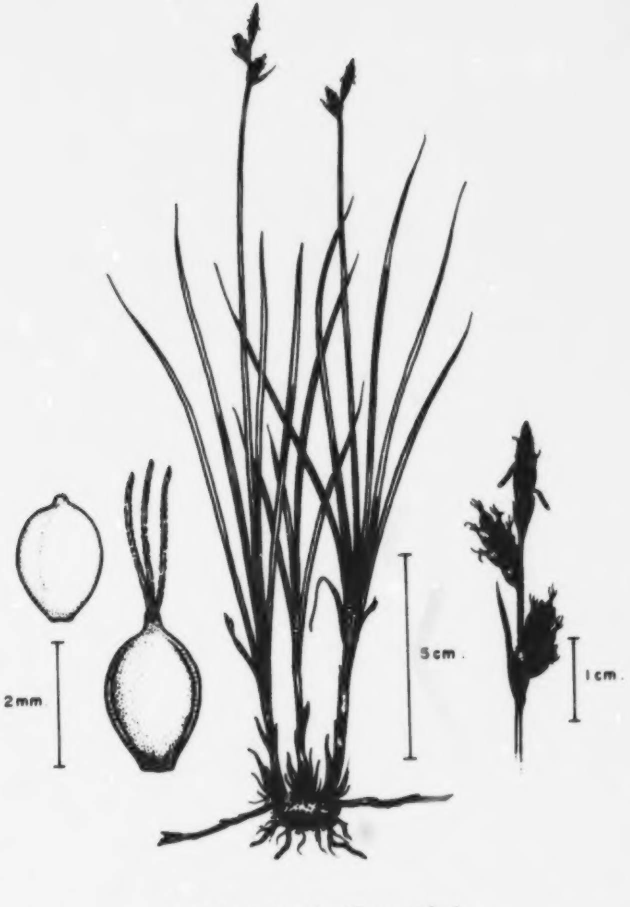
Dry plains and open, rocky places up to fairly high altitudes in the mountains; Alaska to Manitoba, south to British Columbia, Montana, Wyoming, Utah, Colorado, New Mexico; Eurasia; in the interior of British Columbia south to about Lat. 51° N.

63. *Carex supina* Willd. ex Wahl. Spreading arctic sedge

Stoloniferous, rootstocks brown, slender, from which arise tufts of leaves and culms. *Culms* up to 1.5 dm tall, erect, sharply triangular, scabrous, longer than the leaves. *Leaves* crowded, narrow, 1.0-1.5 mm wide. *Spikes* 3, terminal staminate, linear, the lateral pistillate, few-flowered, subglobose, sessile; *lowest bract* scale-like, awned; *pistillate scales* broadly ovate, chestnut-brown with broad translucent and pale margins, slightly shorter than the perigynia; *perigynia* 2.5-3.5 mm long, oval to ovate-elongate, brown, shiny, prominently beaked; *achenes* yellowish-brown, 2mm long; *stigmas* 3.

Non-calcareous, dry, rocky and sandy places; circumboreal, low Arctic North America; rare in British Columbia, known only from the northern interior.


BRITISH COLUMBIA
Spreading arctic sedge
(Carex supina)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
50° N
130° W
120° W

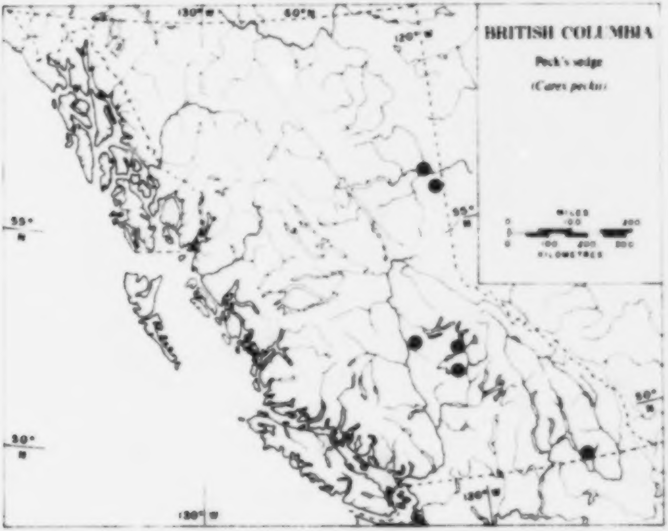


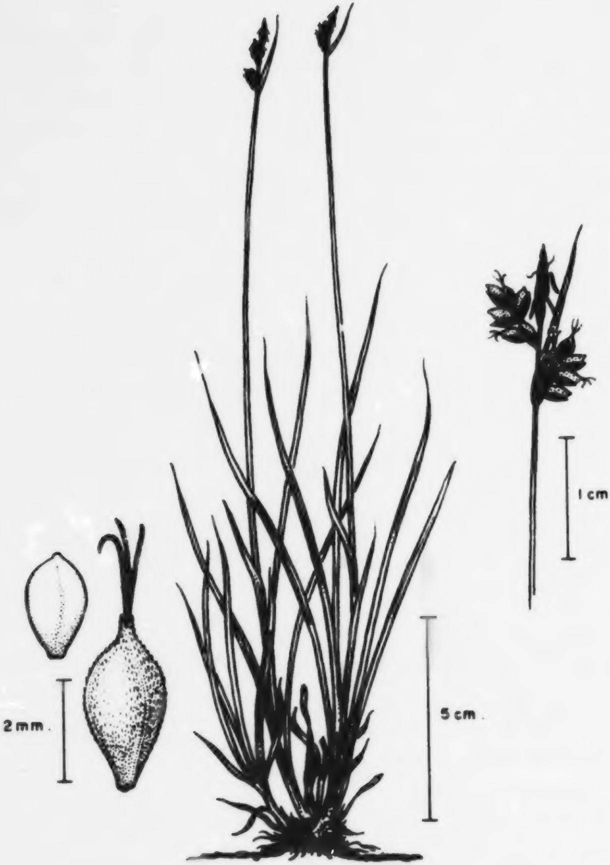
Spreading arctic sedge *(Carex supina)*

25. MONTANAE

64. ***Carex peckii* Howe** **Peck's sedge**

Caespitose, stoloniferous, rootstocks slender, scaly. *Culms* up to 6.5 dm tall, greatly exceeding the leaves, roughened beneath the spike, reddish-purple at the base. *Leaves* several from near the base of the culm, about 1.5 mm wide, flat, pale green, soft, roughened towards the tip and on the margins. *Terminal spike* staminate, 1-13 mm long, sessile, the *lateral* pistillate, 1-3, globose, sessile, *lowest bract* green, sheathless; *scales* mucronate to obtusish, reddish-brown, centre pale or green, margins white-hyaline, much shorter than the perigynia; *perigynia* few, ascending ellipsoid to fusiform, about 3.5 mm long, obtusely triangular, grayish- or yellowish-green, hirsute-pubescent, 2-ridged, stipitate, spongy at the base, beak slender, bidentate, hyaline margined and at the tip; *achenes* triangular, yellowish-brown, minutely apiculate, jointed with the short, black, deciduous style which is somewhat enlarged at the base; *stigmas* 3. (*C. nigromarginata* Schw.)



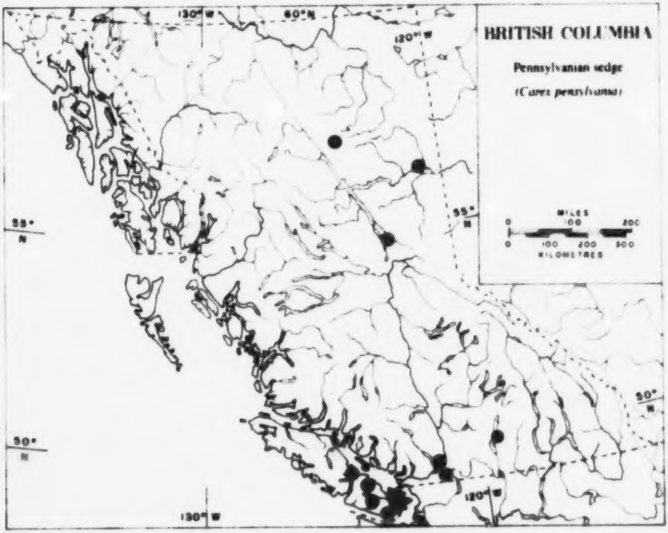


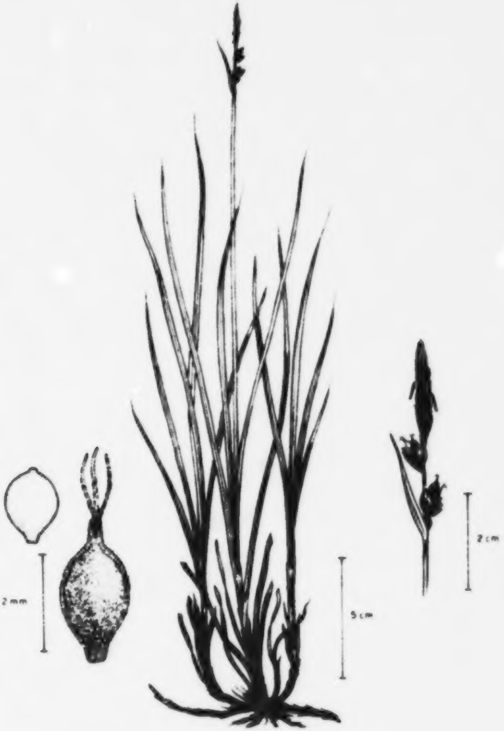
Peck's sedge *(Carex peckii)*

Open woods and dry slopes; Alaska to Quebec, south to British Columbia, Colorado, South Dakota, Michigan and New Jersey; known in British Columbia from Wells Gray Provincial Park, the Cariboo, Peace River and the South Kootenay Valley.

65. *Carex pensylvanica* Lam. Pennsylvanian sedge

Caespitose in clumps, rhizomes well developed, creeping. *Culms* up to 5 dm tall, mostly exceeding the leaves, slender, wiry, fibrillose at the base. *Leaves* 5-10 to a culm, flat, 1-3 mm wide, channeled towards the base, margins somewhat revolute, lower sheaths breaking and becoming filamentose. *Terminal spike* staminate, more or less peduncled, mostly about 2 cm long, sometimes with a few perigynia at the base; pistillate spikes 1-3, sessile or short-peduncled, closely ascending, fairly closely aggregated and to the staminate spike, short-oblong, up to 1.5 cm long; *lowest bract* leaf-like, the upper bracts reduced; *pistillate scales* obtuse to acuminate or cuspidate, chestnut- to straw-coloured, margins hyaline, centre lighter, 3-nerved, about the size of the perigynia; *perigynia* few to a spike, 3.0-4.5 mm long, ascending, suborbicular, membranous, straw-coloured or brownish-tinged or whitish, short hispid, 2-keeled, nerveless, stipitate, abruptly contracted into a conspicuous, serrulate, bidentate beak, hyaline at the tip; *achenes* 2 mm long, trigonous with convex sides and conspicuous angles, closely enveloped, trun-


BRITISH COLUMBIA
Pennsylvanian sedge
(Carex pensylvanica)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W



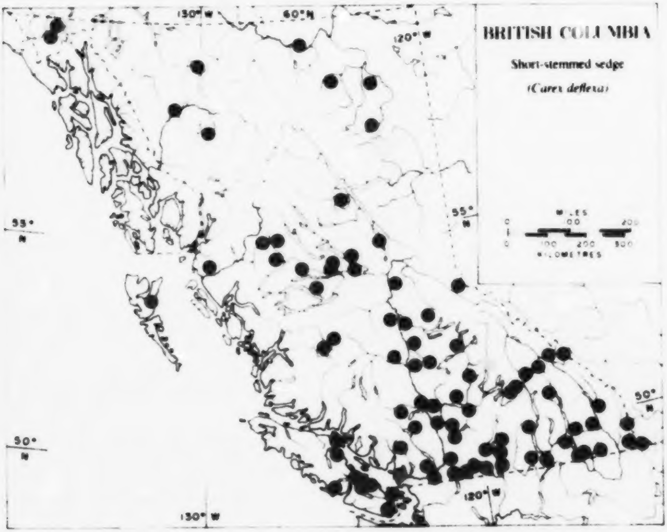
Pennsylvanian sedge *(Carex pensylvania)*

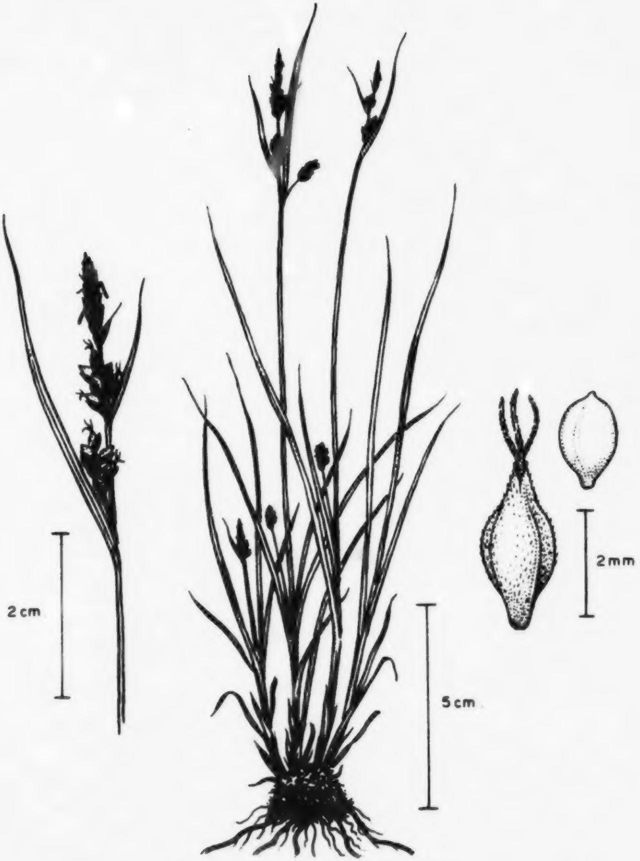
cate, minutely apiculate; *stigmas* 3. (*C. heliophila* Mack., *C. inops* Bailey).

Dry soil in open woods and prairies; British Columbia to Quebec, south to northern California, North Dakota, Iowa, Wisconsin, Michigan, South Carolina and Tennessee; scattered through British Columbia as far north as about Lat. 57° N.

66. *Carex deflexa* Hornem. Short-stemmed sedge

Densely to loosely caespitose but without prolonged stolons. *Culms* up to 30 cm tall, slender, roughened above, mostly equalling or longer than the leaves. *Leaves* several to a culm, thin but firm, flat, channeled above, margins slightly revolute, 1.0-2.5 mm wide. *Terminal spike* staminate, sessile or short-peduncled, 3-15 mm long; *pistillate spikes* 3-5, the upper one or two approximate, sessile or short-peduncled, the lower widely separate, nearly basal, on slender, usually elongate peduncles, 3-5 mm long, closely 3-15 flowered; *lower bract* leaf-like, usually exceeding the culm; *scales* ovate, acute to cuspidate or awned, greenish or reddish- or purplish-brown, shorter than the perigynia; *perigynia* about 4 mm long, membranous, short-pubescent, 2-keeled, otherwise usually nerveless, abruptly contracted into a ciliate-serrulate, deeply bidentate, conic beak, 1.1-1.7 mm long; *achenes* obovoid-orbicular with convex sides; *stigmas* 3. (*C. rossii* Boott, *C. brevicaulis* Mack., *C. brevipes* Boott)


BRITISH COLUMBIA
Short-stemmed sedge
(Carex deflexa)
MILES
0 100 200
0 100 200 300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W



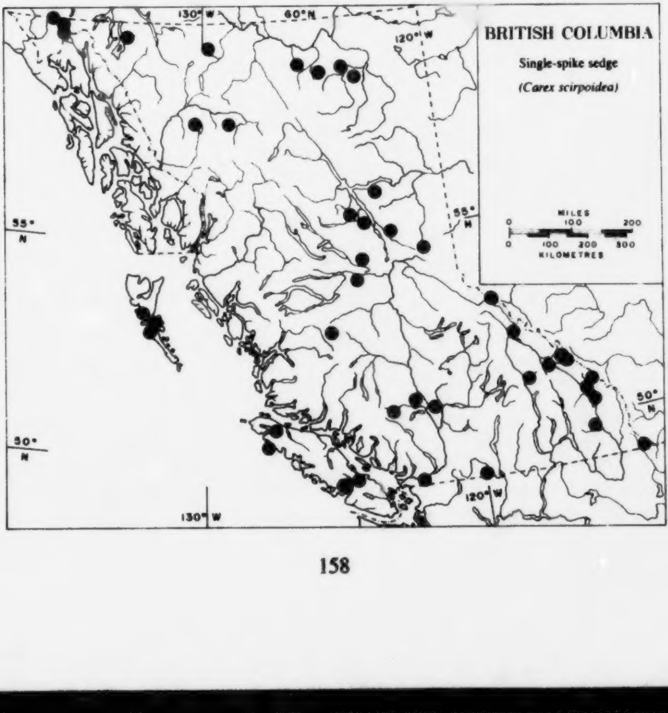
Short-stemmed sedge *(Carex deflexa)*

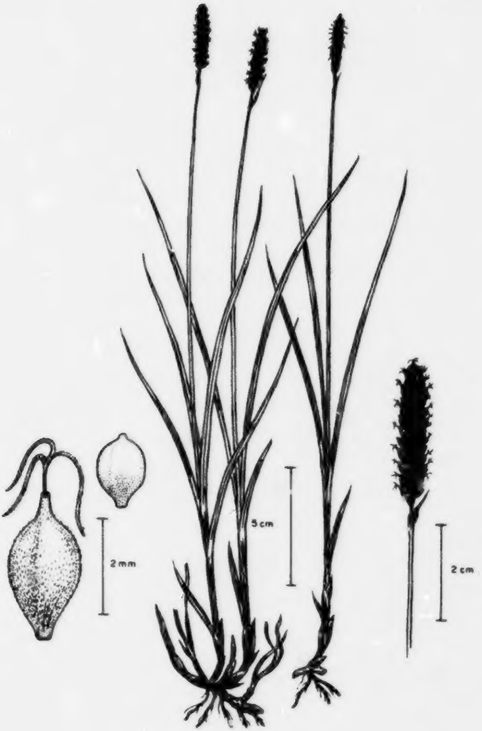
Dry, open coniferous woods, in clearings, etc.; Yukon to California, east to Colorado and Arizona, local in northern Michigan; general in suitable habitats throughout British Columbia.

26. SCIRPINAE

67. ***Carex scirpoidea*** **Michx.** **Single-spike sedge**

Rootstock creeping, rather woody. *Culms* arising singly or a few together, up to 4 dm tall, longer than the leaves, clothed at the base with old leaves, stiff. *Leaves* mostly 2-4 to a culm, usually arising from near its base, flat or somewhat channeled, up to 3 mm wide. *Spikes* single, erect, pistillate or staminate, the pistillate (sometimes compound at the base) 1.5-3.0 cm long, closely many-flowered; *bract* (sometimes lacking) narrow, dark-auricled, more or less prolonged, up to 20 mm long but much shorter than the spike; *pistillate scales* more or less obtuse, obovate-oblong, puberulent, ciliate, chocolate brown to blackish, midrib pale, margins very narrowly hyaline, somewhat shorter than the perigynia; *perigynia* numerous, erect-appressed, ovoid or oblong-ovoid, about 3 mm long, compressed-trigonous, straw-coloured, reddish-tinged, short-whitish-pubescent, 2-ribbed, obscurely few-nerved at the base, round-tapering at the apex, abruptly narrowed into a minute, slen-


BRITISH COLUMBIA
Single-spike sedge
(Carex scirpoidea)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
130° W
120° W



Single-spike sedge *(Carex scirpoidea)*

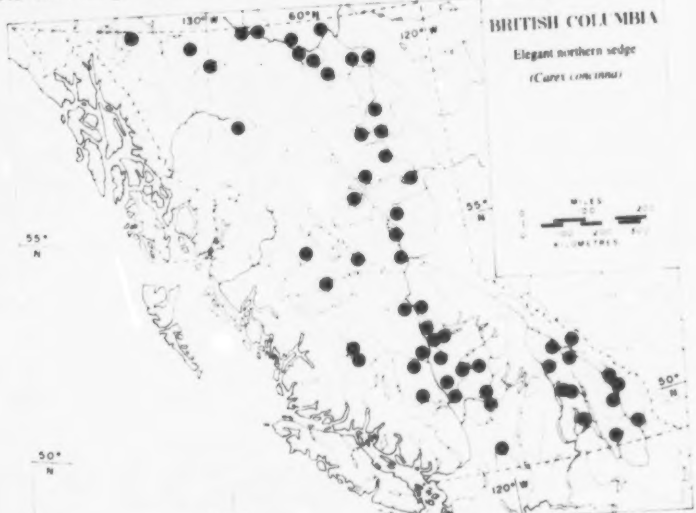
der beak, the orifice at length bidentulate; *achenes* oval-oblong, sharply trigonous, brownish-yellow; *stigmas* 3.

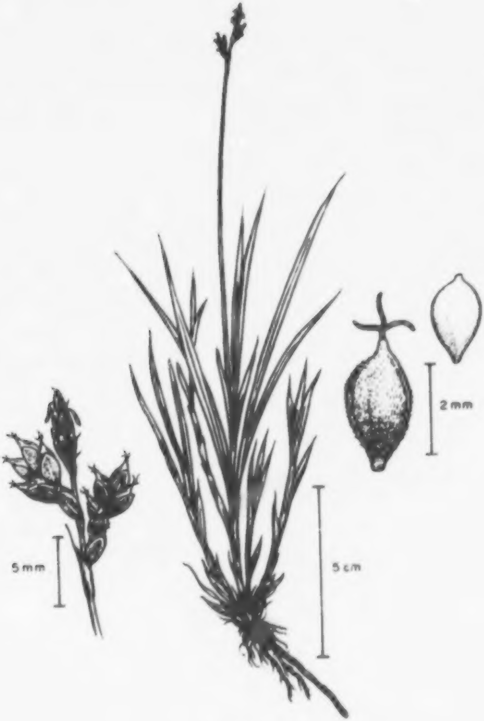
Open, often dry, sites, mostly in alpine or subalpine areas; Alaska to Greenland, southward to California, Nevada, Arizona, Michigan, and New Hampshire, irregularly in Siberia and northern Europe; generally distributed in British Columbia but not common.

27. DIGITATAE

68. ***Carex concinna*** **R. Br.** **Elegant northern sedge**

Loosely caespitose, rootstocks slender, stem long, scaly. *Culms* slender, erect or incurved, up to 2 dm tall, much exceeding the leaves, dark brownish-tinged and somewhat fibrillose at the base, sterile shoots sometimes reddish-purple-tinged. *Leaves* 5-9 to a culm, from near the base, about 2 mm wide, flat with revolute margins, involute at the base. *Staminate spike* sessile or short-peduncled, 3-6 mm long, often surpassed by the uppermost *pistillate spike*; *scales* few, closely appressed, ciliate-laciniate, midvein obsolete; pistillate spikes 2 or 3, aggregated or the lowest somewhat remote, erect, from long-peduncled to nearly sessile, short-oblong to nearly orbicular, 4-8 mm long, rather closely flowered, perigynia few; *bracts* reduced to bladeless sheaths up to 7 mm long; *scales* orbicular-ovate, obtuse, ciliate, rather hairy, dark-reddish-brown with pale midrib and white-hyaline margins, half the length of the perigynia; *perigynia* ascending, oblong-obovoid, obtusely trigonous, about 3.5 mm long, whitish to greenish, very hirsute, 2-ribbed and several





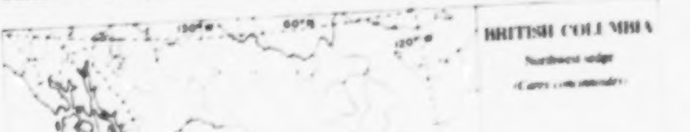
Elegant northern sedge *(Carex concinna)*

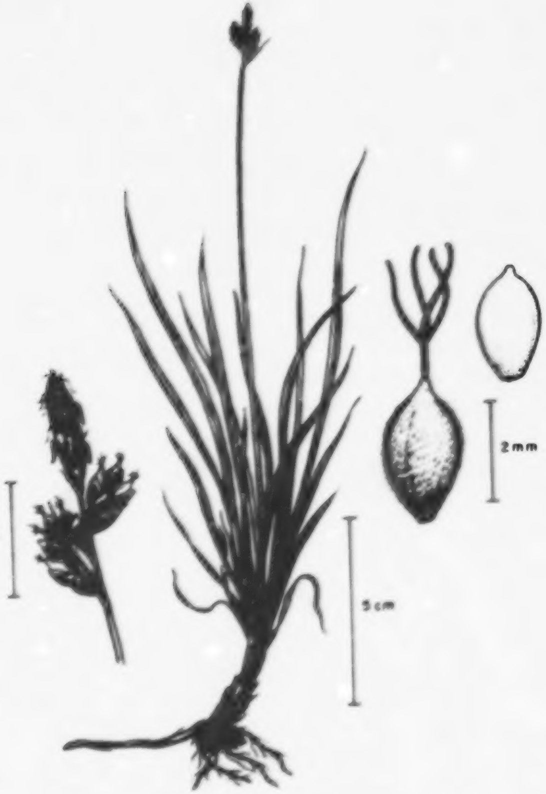
nerved, nerves obscured by the dense pubescence, stipitate, rather abruptly tapered into a very short beak obliquely cut at the tip; *achenes* oblong-obovoid, trigonous, short-stipitate; *stigmas* 3, very short, almost black.

Peaty soil, particularly in open coniferous woods; Alaska to Newfoundland, south to British Columbia and Quebec, scattered stations in Oregon, Wyoming, Colorado, South Dakota and Michigan; throughout the interior of British Columbia.

69. *Carex concinnoides* Mackenzie **Northwest sedge**

Loosely caespitose, rootstocks long, slender, scaly, brownish-black. *Culms* up to 3.5 dm tall, exceeding the leaves, dark purplish-brown at the base. *Leaves* 6-10 to a culm, (the fertile culms with a few bladeless or short-bladed, reddish-tinged sheaths above the leaves), from near the base, thick, 2-4 mm wide, flat or somewhat channeled. *Staminate spike* linear, sessile or nearly so, 8-22 mm long, scales obovate, rather acute, ciliate, dark-purple with white hyaline margins; *pistillate spikes* 1 or 2, approximate, erect, sessile or short-peduncled, linear to oblong, 5-10 mm long, closely few-flowered; *bracts* bladeless, much shorter than the spikes, very short-sheathing, strongly purplish-tinged, margins hyaline; *scales* ovate-lanceolate to obovate, acute to acuminate, narrower and shorter than the perigynia, ciliate, dark purplish-red with conspicuous white-hyaline margins; *perigynia* ascending, oblong-obovoid, about 3 mm long, obscurely trigonous, light green with copious, loose pubescence, 2-keeled, obscurely several-nerved, short-stipitate, rounded at the apex and abruptly minutely beaked; *achenes* oblong-obo-





Northwest sedge *(Carex concinnoides)*

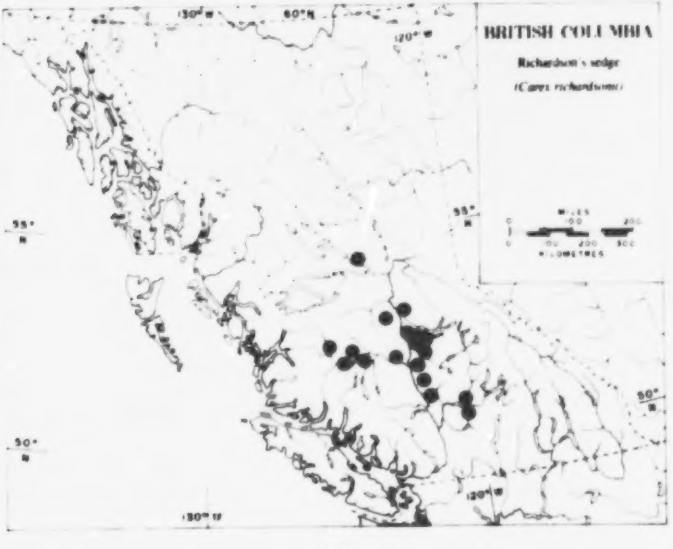
void, sharply trigonous or tetragonous, stipitate; *stigmas* 4 or 3, long, slender, brownish.

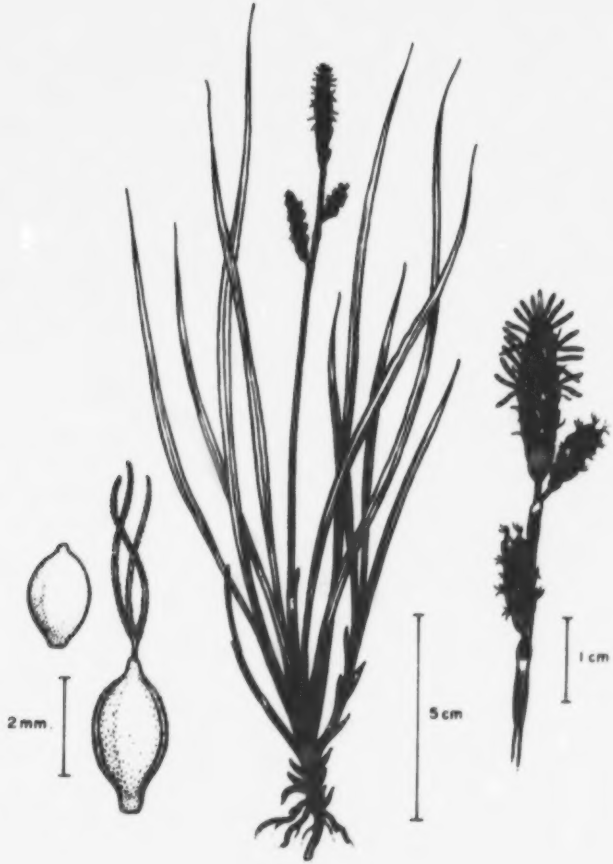
Dry coniferous woods; British Colmbia to northern California, east to Alberta, northeastern Oregon and western Montana; general in the southern interior of British Columbia.

70. ***Carex richardsonii* R.Br.** **Richardson's sedge**

Stoloniferous, leaves and culms in small tufts. *Culms* up to 2.5 dm tall, slender, rough above, ascending, brownish, fibrillose at the base. *Leaves* mostly basal, up to 2 dm long, thick, stiff. *Terminal spike* staminate, peduncled, 12-20 mm long, scales round or blunt with a narrow purple centre and broad hyaline margins; *pistillate spikes* 1-3, appressed-ascending, linear, short-peduncled, included or barely exserted from the enclosing sheath; *lowest bract* bladeless, long-sheathing, purplish, hyaline-margined; *pistillate scales* longer and wider than the perigynia, acute or obtuse, brown-purple, margins broadly hyaline; *perigynia* obovoid, 2.5-3.5 mm long, straw-coloured or brownish, obscurely trigonous, thinly appressed-puberulent, rounded at the top, beak very short; *stigmas* 3.

Dry rocky places or upland woods; British Columbia to Vermont, south to South Dakota, Iowa, Illinois, Indiana and Ohio; in British Columbia, apparently limited to central part of the province.


130° W
60° N
120° W
BRITISH COLUMBIA
Richardson's sedge
(Carex richardsonii)
MILES
0 100 200
0 100 200 300
KILOMETRES
55° N
55° N
50° N
50° N
130° W
120° W

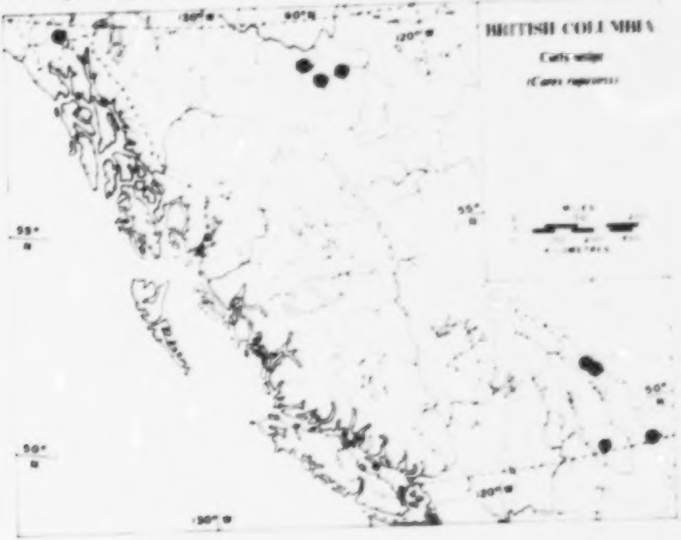


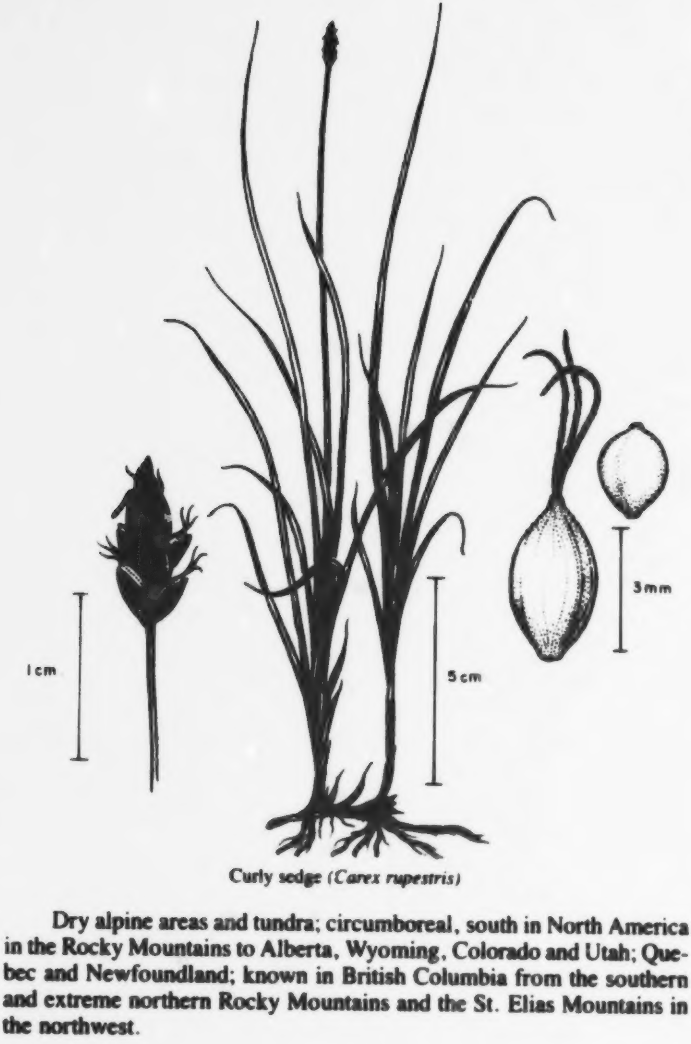
Richardson's sedge *(Carex richardsonii)*

28. RUPESTRES

71. *Carex rupestris* Bellardi ex Allioni **Curly sedge**

Loosely caespitose, rootstocks slender, scaly. *Culms* up to 5 cm tall, rather stout, stiffly erect, wiry, usually exceeded by the leaves, dark reddish-purple at base, old leaves conspicuous. *Leaves* 8-12 to a culm, from near the base, flat, channeled, 1.5-3.0 mm wide, tip drying, attenuate, more or less circinate. *Spike* solitary, staminate above, oblong to linear, rather stout, 1-2 cm long, staminate in the upper half to one-third with a few, erect-ascending perigynia below; *bractless; pistillate scales* orbicular-ovate, obtuse or the lower acute, deep chestnut-brown, centre lighter, margins broad, white-hyaline, usually longer than the perigynia and concealing them; *perigynia* 3-8, oblong-obovoid, 4 mm long, flattened-trigonous, smooth, shining, greenish-white below, brownish above, two-keeled, finely many-nerved, sparingly ciliate-serrulate above, rounded, abruptly minutely beaked; *achenes* narrowly oblong-obovoid, sharply trigonous, dark chestnut-brown, short-apiculate, jointed with the short, thick style; *stigmas* 3.





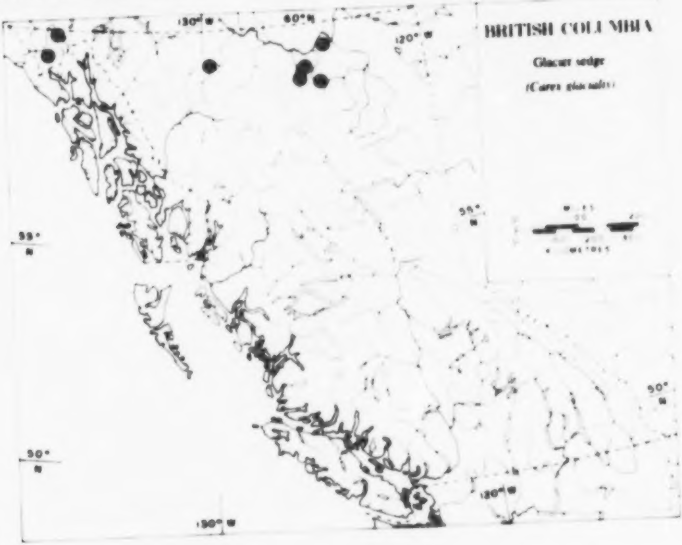
Curly sedge *(Carex rupestris)*

Dry alpine areas and tundra; circumboreal, south in North America in the Rocky Mountains to Alberta, Wyoming, Colorado and Utah; Quebec and Newfoundland; known in British Columbia from the southern and extreme northern Rocky Mountains and the St. Elias Mountains in the northwest.

72. *Carex glacialis* Mackenzie **Glacier sedge**

Densely caespitose, rootstocks very short. *Culms* up to 15 cm tall, exceeding the leaves, wiry, stiff, reddish-purple at base, clothed with old leaves. *Leaves* 3-8 to a culm, about 1 mm wide, recurved, flat at base, triangular, channeled above, stiff, attenuate, sometimes circinate at the tip. *Terminal spike* staminate, 2-6 mm long, sessile; *lateral spikes* 1-3, pistillate, 2-5 mm long, closely approximate, sessile; lowest bract loose, short-tubular sheathed, obtuse or prolonged into an awn up to 15 mm long, the upper smaller; *scales* acutish or obtusish, purplish-black, margins hyaline; *perigynia* 1-5 to a spike, 2.5 mm long, erect-ascending, obtusely-triangular, membranous, yellowish-green or straw-coloured below, purplish-black above, 2-ribbed, contracted into a short, cylindric, hyaline-tipped beak; *achenes* triangular, yellowish-brown, apiculate, jointed with the deciduous style; *stigmas* 3.

Dry arctic-alpine sites; Alaska to Newfoundland, Greenland, south to northern British Columbia; Eurasia; in British Columbia, known only in the extreme north.



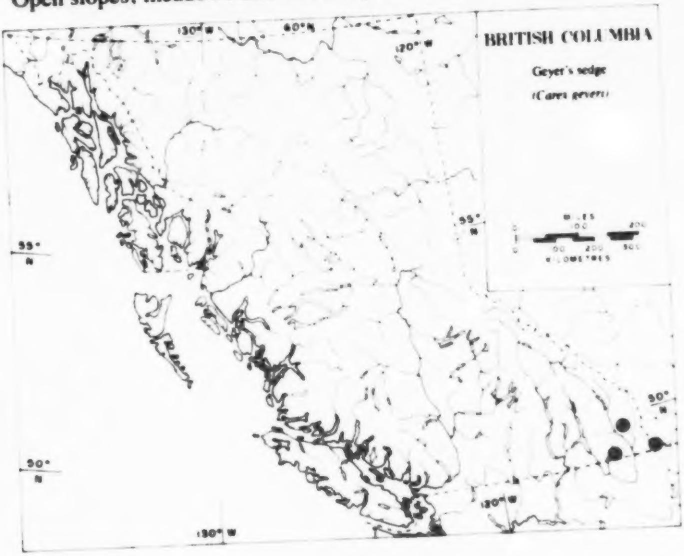
(Not illustrated)

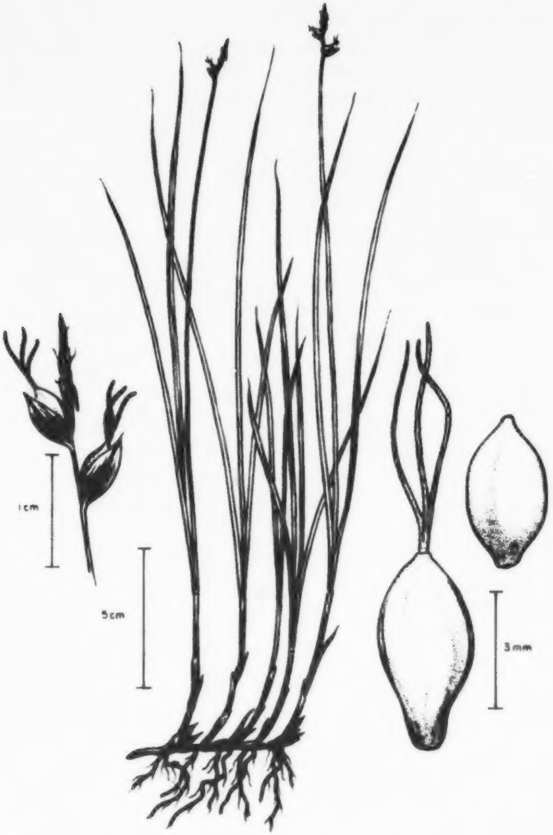
29. FIRMICULMES

73. *Carex geyeri* Boott **Geyer's sedge**

Loosely caespitose, rootstocks elongate, woody. *Culms* up to 4 dm tall, sharply triangular, very rough above, stiffly erect. *Leaves* generally 2 to a culm, on the lower half, blades 2-4 mm wide, leathery, very short at flowering time, later elongating, flat or channeled margins very rough, tips often withering, sterile shoots numerous, elongate. *Spikes* solitary, staminate above, staminate part linear, short-peduncled above the 1-3 perigynia; *bracts* lacking; *pistillate scales* usually longer and wider than the perigynia, partly enveloping and concealing them, greenish to brownish with wide, hyaline margins, the lower short-awned, the upper shorter and blunter; *perigynia* often somewhat separate, oblong-obovoid, 5-7 mm long, triangular, glabrous, 2-ribbed, otherwise nerveless, greenish to brownish, short-stipitate and tapering to a somewhat spongy base, apex rounded, abruptly very short-beaked; *achenes* 4-5 m long, obovoid, sharply trigonous, obpyramidal, sides concave; *stigmas* 3.

Open slopes, meadows and woods up to moderate elevations; British





Geyer's sedge *(Carex geyeri)*

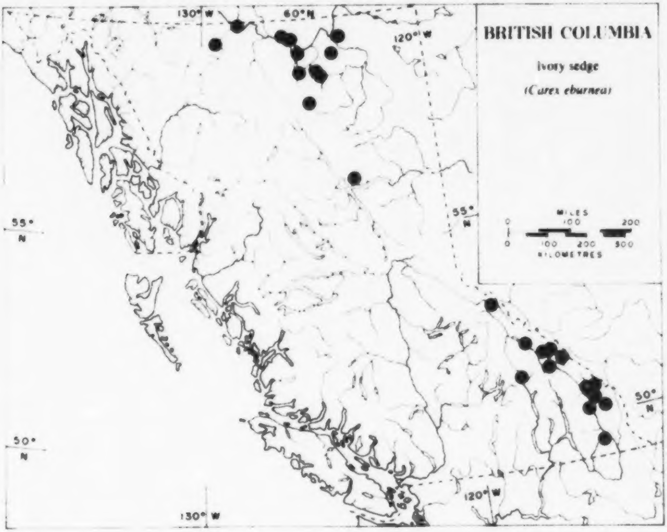
Columbia to Alberta, southward to northern California, Utah and Colorado; in British Columbia, collected only in the extreme southeastern corner.

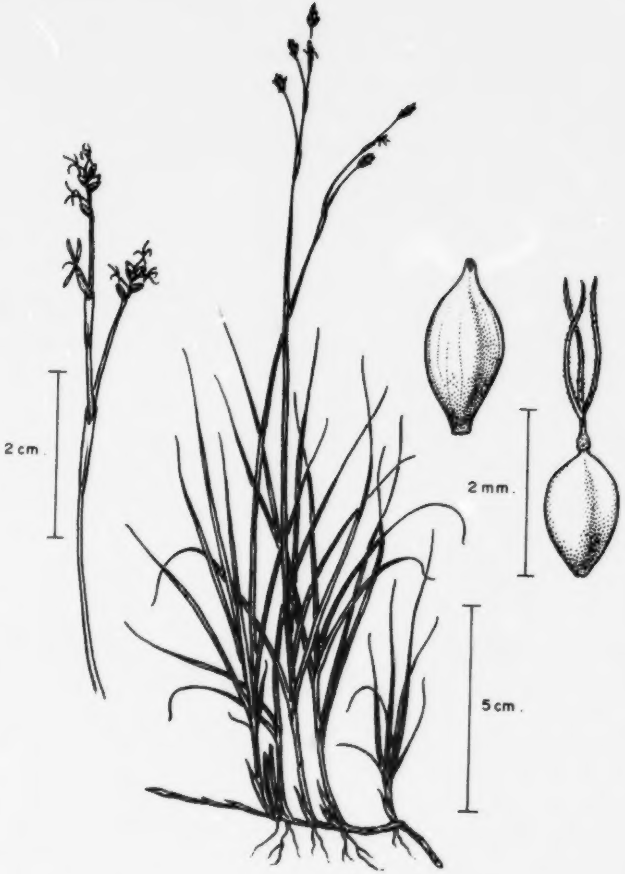
30. ALBAE

74. *Carex eburnea* Boott **Ivory sedge**

Caespitose, rootstocks slender, brownish. *Culms* capillary, up to 3.5 dm tall, longer than the leaves, obtusely triangular, reddish-tinged at the base. *Leaves* 3-6, 0.5 mm wide, hair-like, involute, roughened. *Terminal spike* staminate, 4-8 mm long, lateral spikes 2-4; *pistillate*, 2-6 mm long on hair-like peduncles; *bracts* bladeless, sheath tubular, truncate; *staminate scales* obtuse, yellowish-white with white margins; *pistillate scales* either obtuse or acute, whitish to pale brown, midrib greenish, shorter than the perigynia; *perigynia* 2-6 to a spike, 2 mm long, elliptical, triangular, membranous, dark-green to blackish, shining, finely-nerved, 2-ribbed, beak short, hyaline tipped; *achenes* triangular with thickened angles and concave sides, brown, apiculate, jointed with the bulbous-thickened style base; *stigmas* 3.

Open dry, often calcareous, situations; Alaska to Newfoundland, south to British Columbia, Alberta, Nebraska, Missouri, Tennessee and Virginia; in British Columbia, found throughout the Rocky Mountains.


BRITISH COLUMBIA
Ivory sedge
(Carex eburnea)
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W
MILES
0 100 200
0 100 200 300
KILOMETRES

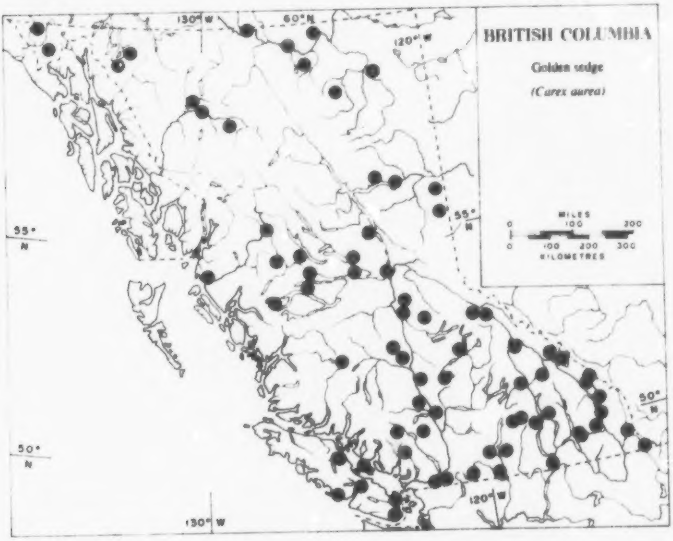


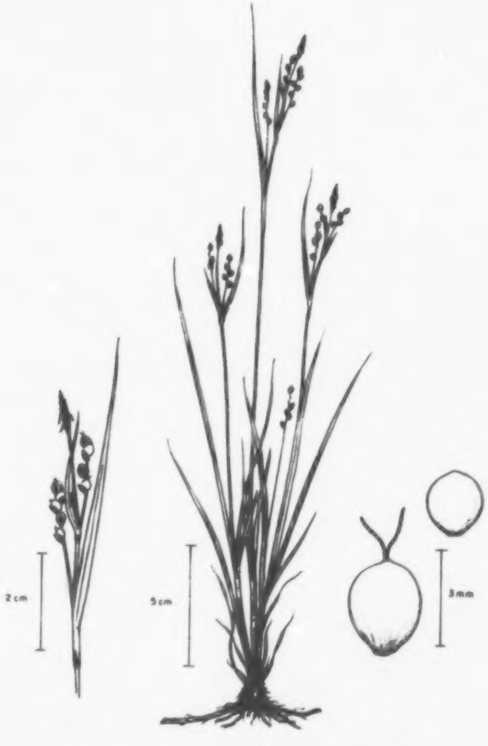
Ivory sedge *(Carex eburnea)*

31. BICOLORES

75. *Carex aurea* Nutt. **Golden sedge**

Loosely caespitose, rootstocks long, very slender. *Culms* slender, erect, up to 5.5 dm tall, from very short to much exceeding the leaves. *Leaves* usually 4-7 to a culm from near the base, 2-4 mm wide, flat but channeled at the base, attenuate at the apex. *Staminate spike* linear, 3-10 mm long, sessile or short-peduncled; *pistillate spikes* usually 3-5, erect, the upper approximate, short-peduncled or sessile, the lower widely separate, sometimes nearly basal, on peduncles up to 4 cm long, spikes oblong to linear-oblong, perigynia ascending to spreading; *bracts* leaf-like, usually much exceeding the inflorescence; *scales* ovate to ovate-orbicular, widely spreading at maturity, shorter and narrower than the perigynia, short cuspidate to rather obtuse, reddish-brown with conspicuous greenish, 3-nerved centre, margins white hyaline; *perigynia* orbicular-obovoid, flattened-oval, 2-3 mm long, coarsely ribbed, fleshy at maturity, translucent, golden-yellow to orange when fully mature, or brownish,


BRITISH COLUMBIA
Golden sedge
(Carex aurea)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W



Golden sedge *(Carex aurea)*

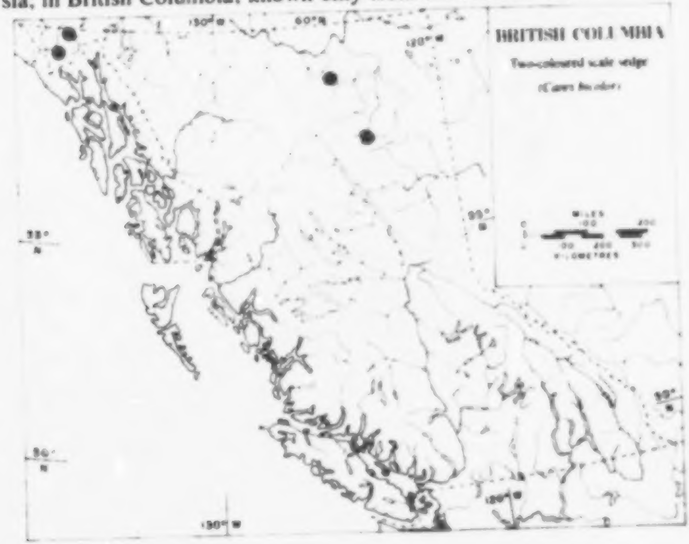
rounded at the apex, beakless, or nearly so, tip entire; *achenes* lenticular, brownish; *stigmas* 2, rarely 3. *(C.hassei* Bailey, *C.garberi* Fern.)

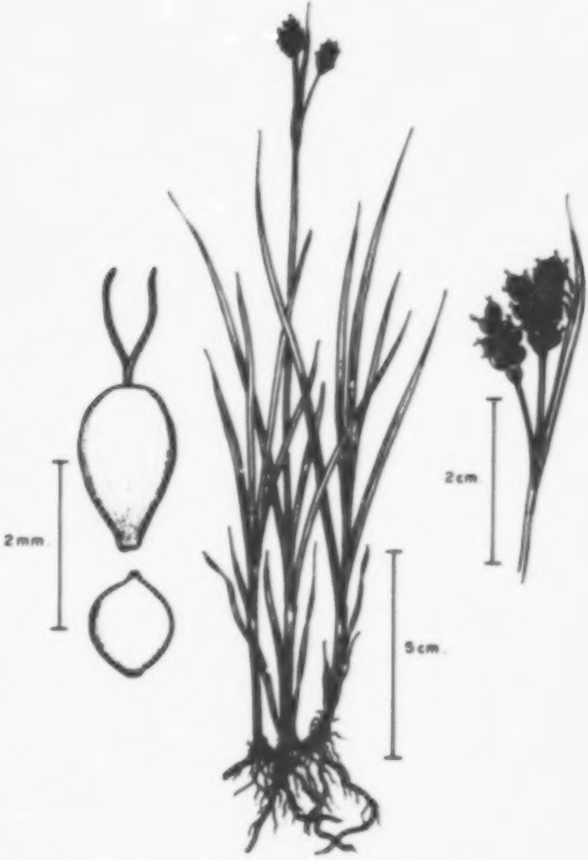
In a variety of damp to wet situations from low altitutdes to near timberline; Alaska to Newfoundland, southward to California, Arizona, Nevada, Utah, New Mexico, Nebraska, Indiana and Connecticut; general throughout British Columbia.

76. *Carex bicolor* Allioni — **Two-coloured scale sedge**

Loosely caespitose, stolons short, slender, horizontal, yellowish-brown. *Culms* up to 2 dm tall, erect or decumbent, exceeding the leaves, roughened above, light-brownish-tinged at base. *Leaves* 3-9 to a culm from near the base; blades 3-6 cm long, blue-green, flat above, channeled below, roughened toward the tip. *Spikes* 2-5, terminal pistillate above, the lateral pistillate, 5-10 mm long, the upper approximate, the lowest on a rough peduncle 2 cm long; *lowest bract* shorter than the inflorescence, short-sheathing, auricles dark, the upper shorter, scale-like; *scales* obtuse or mucronate, purplish-black with hyaline margins, centre yellowish-green; *perigynia* 5-20 to a spike, about 2.5 mm long, appressed-ascending, flattened-elliptic, membranous, glaucous-white, granular-roughened, obscurely ribbed, stipitate, beakless, *achenes* 1-5 mm long, lenticular, yellowish, minutely puncticulate, apiculate, jointed with the short, black style; *stigmas* 2.

Wet, gravelly situations in arctic-alpine areas; Alaska to Greenland and Newfoundland, south to northern British Columbia; northern Eurasia; in British Columbia, known only from the extreme north.



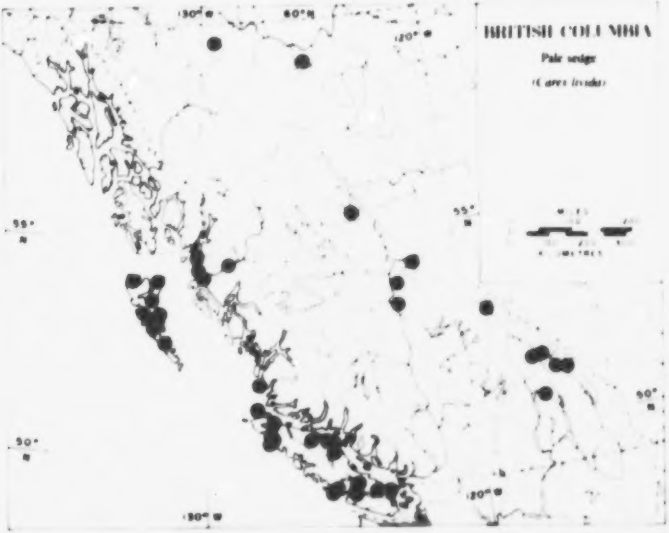


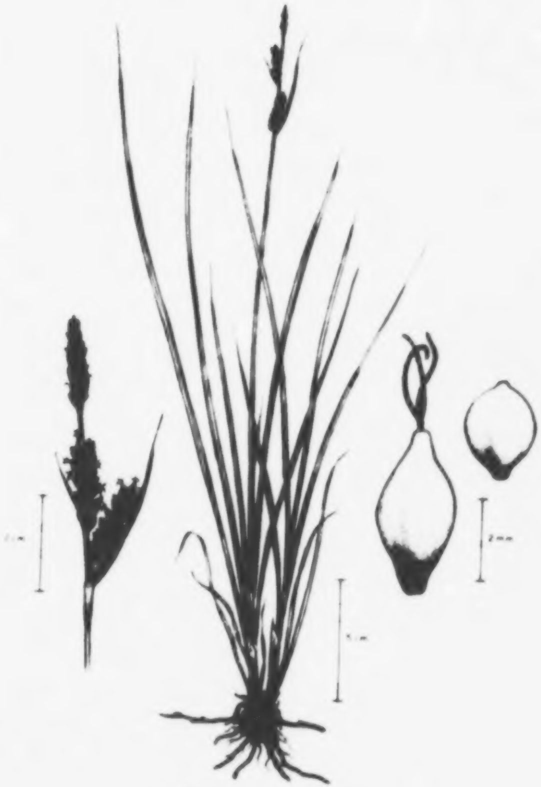
Two-coloured scale sedge *(Carex bicolor)*

32. PANICEAE

77. *Carex livida* (Wahl.)Willd. **Pale sedge**

Rootstocks long, slender. *Culms* solitary or in small clumps, up to 6 dm tall, exceeding or shorter than the leaves, light brown at the base, dried leaves of previous year conspicuous. *Leaves* 6-12 to a culm on the lower third, thickish, stiff, very glaucous, channeled, long-attenuate, usually not more than 3.5 mm wide. *Terminal spike* staminate as a rule, rarely pistillate above, linear, obclavate, 7-30 cm long; *pistillate spikes* 1-3, lowest more or less remote, sometimes long-peduncled, upper contiguous, sessile or short-peduncled, 1-2 cm long, perigynia 5-15, erect-ascending; *bracts* leaf-like, sheathing, sometimes exceeding the culm; *scales* ovate, obtuse to somewhat acute or mucronate, shorter than but partially enveloping the perigynia, light pruplish-red with a broad green centre, margins white-hyaline; *perigynia* oblong-ovoid, somewhat flattened, obtusely trigonous, up to 4.5 mm long, strongly glaucous-green, puncticulate, two-keeled and finely many-nerved, tapering to the entire,





Pale sedge *(Carex livida)*

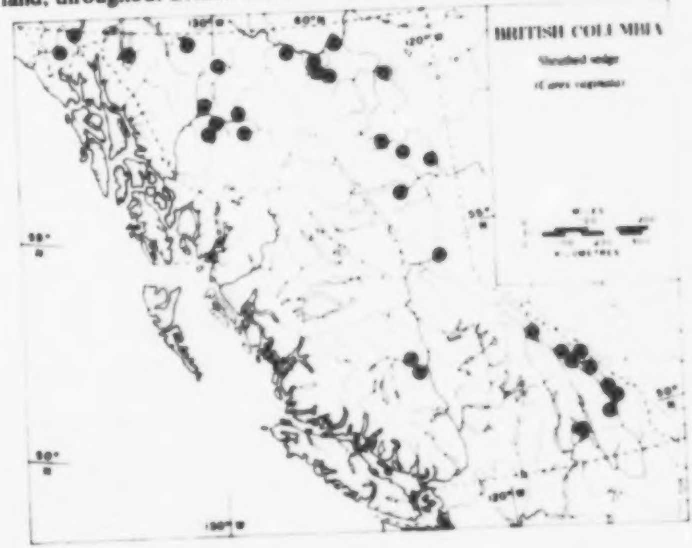
beakless apex; *achenes* broadly ovoid, trigonous with prominent angles, brownish-black; *stigmas* 3.

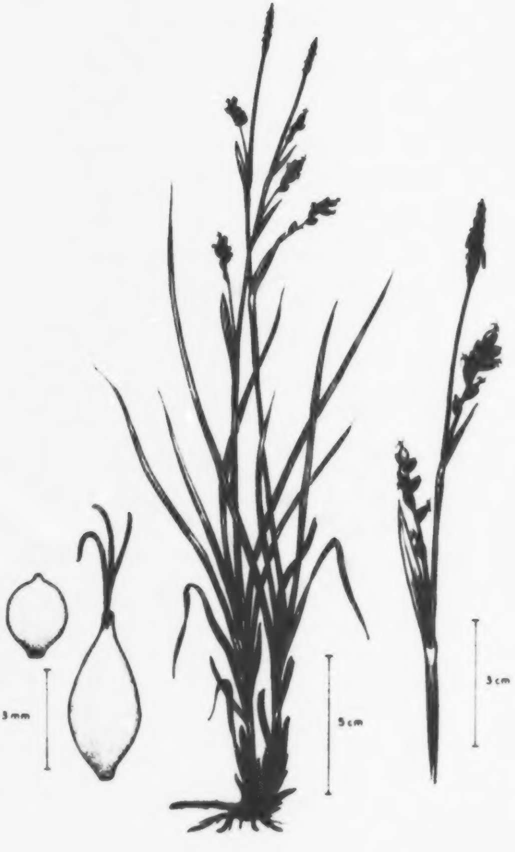
Peat bogs and swampy open woods particularly in calcareous places at low altitudes; circumboreal, south to western Washington, southwest Alberta, Michigan and New Jersey, said to be disjunct in northwest California; in British Columbia, scattered throughout the Coast and Rocky Mountains.

78. *Carex vaginata* Tausch. **Sheathed sedge**

Rhizomes long, horizontal, yellowish-brown. *Culms* up to 6 dm tall, arising singly or few together, brownish-tinged at base, old leaves conspicuous. *Leaves* numerous, mostaly basal, 1.5-5.0 mm wide, flat or channeled at base, roughened towards the apex. *Terminal spike* staminate, 1-2 cm long, on a peduncle 5-80 mm long; *lateral spikes* 2-3, pistillate, the lower on long slender peduncles; *lowest bract* with a well developed sheath, blade shorter than the subtended spike, upper bracts reduced; *scales* obtuse to mucronate, purplish-brown, margins hyaline, centre greenish or yellowish, 3-nerved, shorter than the perigynia; *perigynia* usually few, 3.5-5.0 mm long, spreading or ascending, suborbicular-triangular, slightly inflated, yellowish-green or brownish, 2-keeled, several-nerved, beak about 1 mm long, bidentate; *achenes* about 3 mm long, triangular with concave sides, apiculate, closely enveloped; *stigmas* 3.

Muskeg, boggy spruce thickets; circumboreal, south in North America to British Columbia, Minnesota, Michigan, New York and New England; throughout British Columbia east of the Coast Mountains.



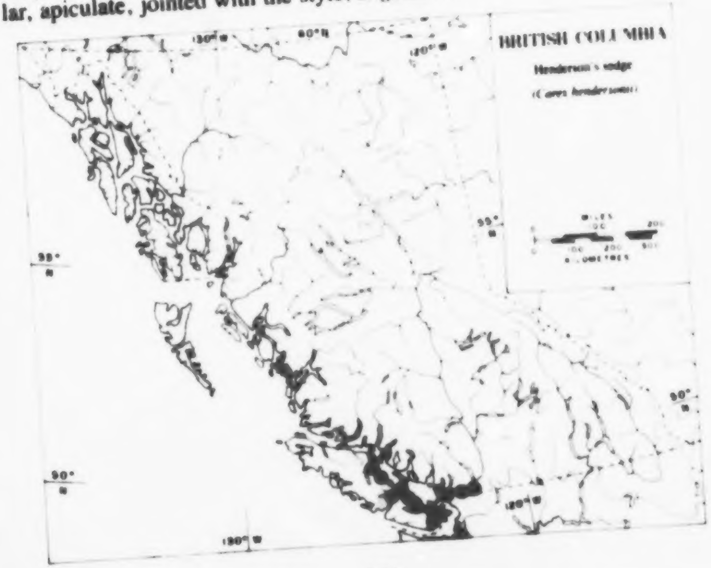


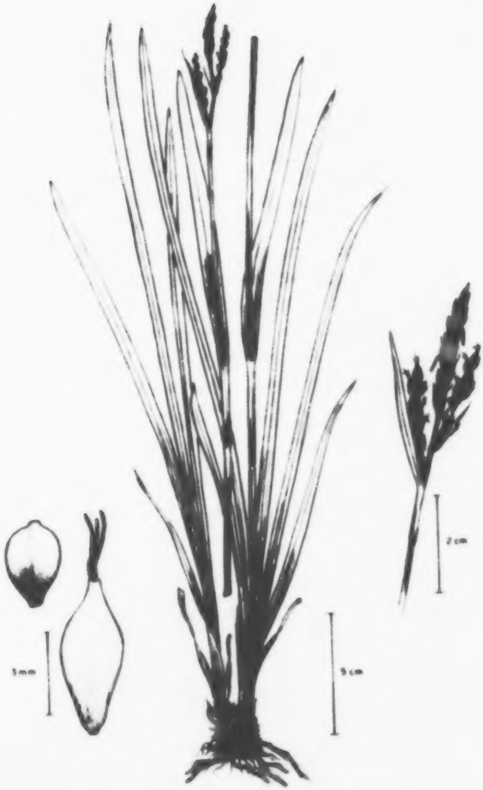
Sheathed sedge (*Carex vaginata*)

33. LAXIFLORAE

79. *Carex hendersonii* Bailey **Henderson's sedge**

Caespitose, rootstocks slender, short. *Culms* up to 9 dm tall, erect or decumbent, stoutish, roughened on the angles, brownish at base. *Leaves* 3-5 to a culm from near the base, blades 6-15 mm wide, 5-25 cm long, flat, thin, light-green, midvein prominent above, roughened towards the apex. *Terminal spike* staminate, 1.5-3.0 cm long; *lateral spikes* 2-4, pistillate, loosely flowered, 1-4 cm long, the lower on slender, roughened peduncles; *lower bracts* leaf-like, the upper reduced; *scales* obtuse to acute, the pistillate mucronate, shorter than the perigynia, white-hyaline with 3-nerved green or straw-coloured centre, usually prolonged as a mucro- or awn-tip, brownish-red- or chestnut-brownish-tinged; *perigynia* few, 5-6 mm long, ascending, obtusely triangular below, sharply above, light-green or greenish-straw-coloured, many-nerved, prominently keeled, puncticulate, base spongy, beak short; *achenes* 3 mm long, triangular with concave sides, filling the cavity, brownish, granular, apiculate, jointed with the style; *stigmas* 3.





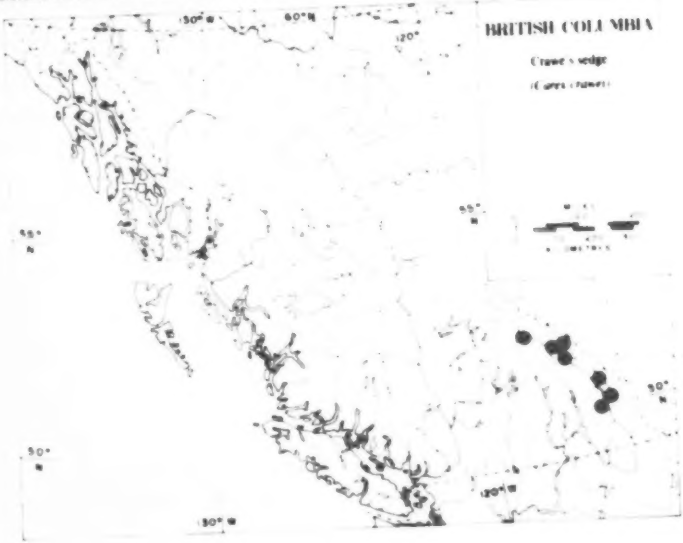
Henderson's sedge *(Carex hendersonii)*

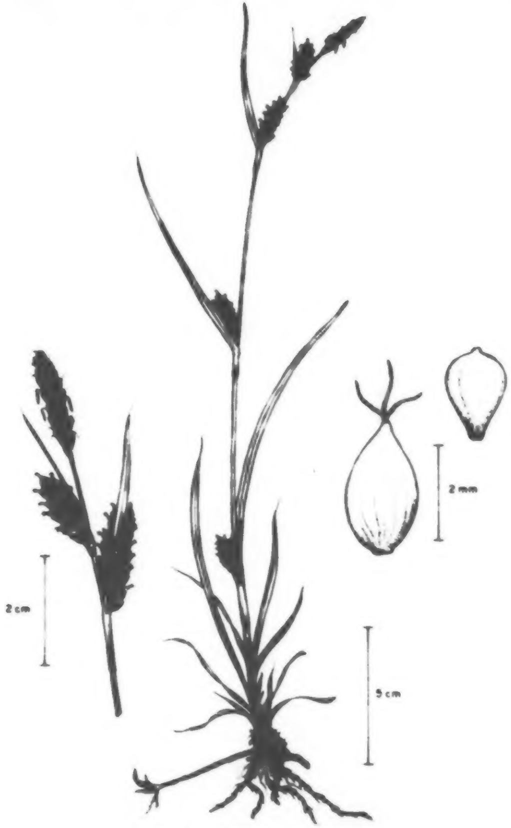
Woods on the coastal mountains; British Columbia to California; in British Columbia, limited to southern Vancouver Island and the adjacent mainland.

34. GRANULARES

80. ***Carex crawei* Dewey** **Crawe's sedge**

Rootstocks slender, long-creeping. *Culms* arising singly or a few together, up to 3 dm tall, slender but stiff, exceeding the leaves, dried leaves of the previous year conspicuous at their base. *Leaves* 6-12 to a culm, arising from near the base, sometimes equitant, thick, stiff, usually recurved-spreading, 1.5-3.0 mm broad, roughened on the margins and towards the apex. *Staminate spike* solitary, linear, 1-3 cm long, erect, long-peduncled, peduncle rough; *pistillate spikes* 2-4, widely separate, the lowest often nearly basal, the peduncles little or not at all exserted, oblong-cylindric, 1-3 cm long, closely flowered, perigynia ascending; *bracts* leaf-like, the upper reduced, usually shorter than the culms; *scales* obtuse, broadly ovate, narrower than and about half the length of the perigynia, reddish-brown with hyaline margins and 3-nerved green centre; *perigynia* ascending, ovoid or oblong-ovoid, almost terete, scarcely inflated, about 3.5 mm long, many-nerved, light green or yellowish-green, rounded at the sessile base, rather abruptly contracted into a very





Crawe's sedge *(Carex crawei)*

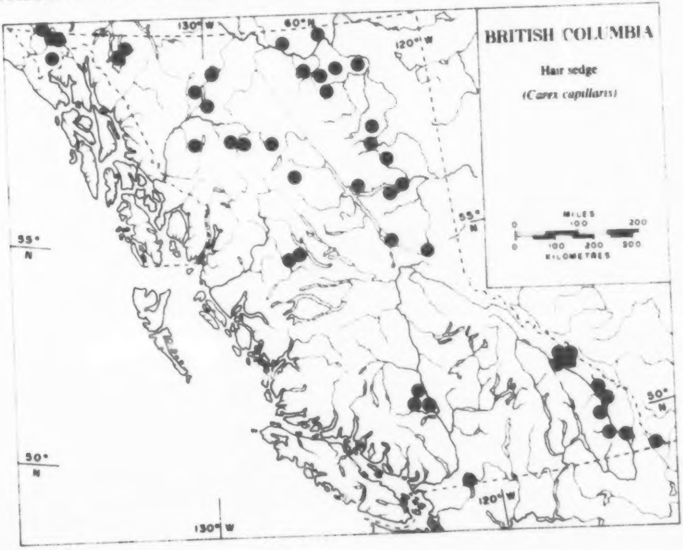
short, straight beak; *achenes* obovoid, trigonous, small, only filling the lower two-thirds of the perigynium; *stigmas* 3.

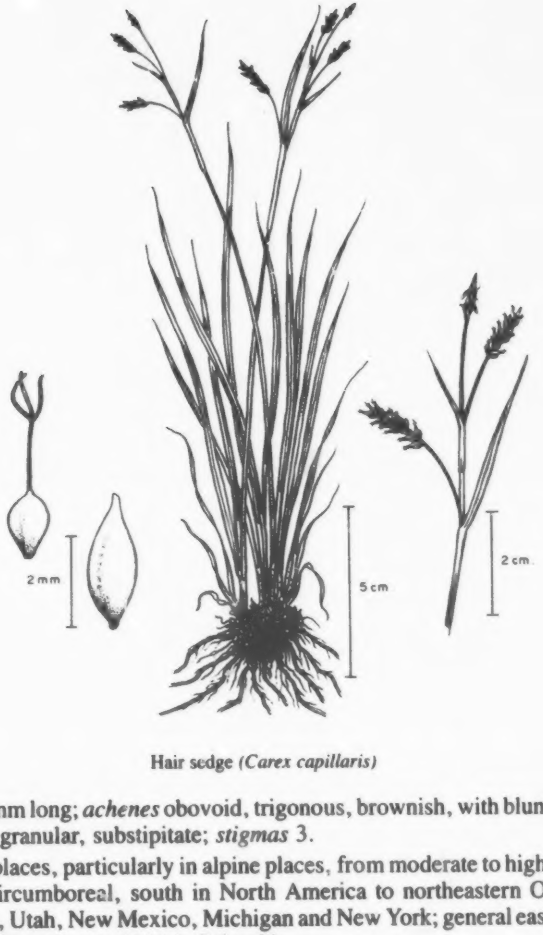
Wet, often calcareous, bogs and meadows; southeastern British Columbia to Quebec, south to Washington, Montana, Wyoming, Utah, Kansas, Alabama and New Jersey; extreme southeastern British Columbia in the Columbia valley.

35. CAPILLARES

81. *Carex capillaris* L. Hair sedge

Caespitose, rootstocks short. *Culms* very slender, up to 6 dm tall, generally exceeding the leaves, obtusely triangular, smooth, dark-tinged, somewhat fibrillose at the base, old leaves conspicuous. *Leaves* from near the base, 5-8 to a culm, flat or slightly channeled at the base, thin, firm, 0.5-4.0 mm wide. *Terminal spike* usually staminate, very slender, 4-8 mm long, commonly shorter than the uppermost pistillate spike, on a short, roughish, slender peduncle; *pistillate spikes* 2 or 3, linear-oblong, 4-15 mm long, on elongate, slender, drooping peduncles, perigynia ascending, loosely arranged; *bracts* long-sheathing, blades leaf-like; *pistillate scales* orbicular-ovate, thin, closely appressed, early deciduous, somewhat wider but much shorter than the perigynia, light chestnut with conspicuous white-hyaline apex; *perigynia* ovoid-lanceolate, obtusely trigonous, slightly inflated, 2-3 mm long, serrulate, slightly ciliate, greenish-brown, nerveless except for the 2 ribs, conspicuously stipitate, contracted into a straight, entire, minutely white-hyaline-tipped, conic


BRITISH COLUMBIA
Hair sedge
(Carex capillaris)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W



Hair sedge *(Carex capillaris)*

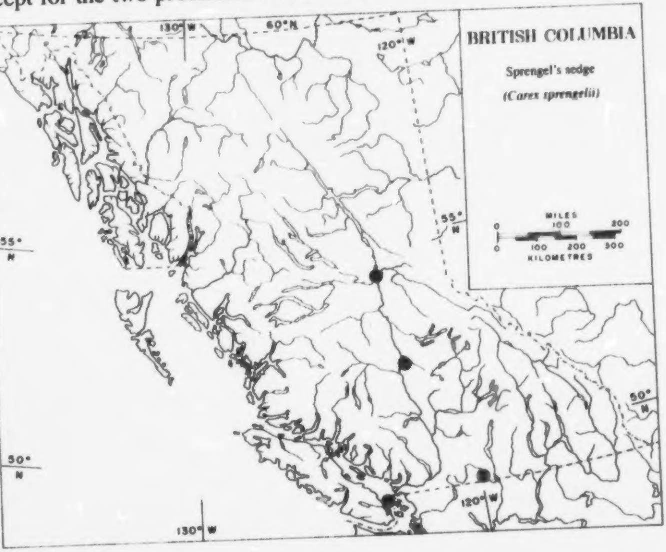
beak 1 mm long; *achenes* obovoid, trigonous, brownish, with blunt green angles, granular, substipitate; *stigmas* 3.

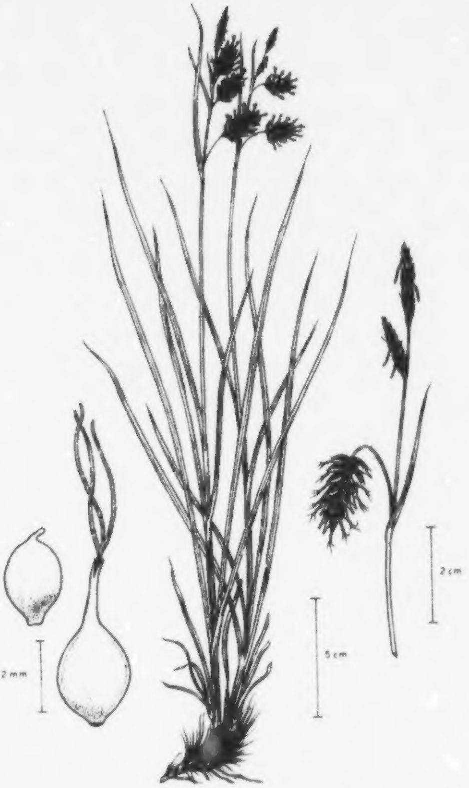
Wet places, particularly in alpine places, from moderate to high elevations; circumboreal, south in North America to northeastern Oregon, Nevada, Utah, New Mexico, Michigan and New York; general east of the Coast Mountains in British Columbia.

36. LONGIROSTRES

82. *Carex sprengelii* Dewey **Sprengel's sedge**

Caespitose, rootstocks fibrillose, stout, elongate, matted. *Culms* slender, up to 9 dm tall, erect or decumbent, exceeding the leaves, triangular, rough on the angles above, conspicuously fibrillose at the base. *Leaves* 5-8 to a culm, scattered, flat, 2.5-4.0 mm wide, long-attenuate, roughened on the upper margins and below. *Staminate spikes* 1-3, linear, 1-2 cm long, the upper rough-peduncled, the lateral sessile; *pistillate spikes* 2-4, oblong-cylindric, 1.0-3.5 cm long, widely separate, pendulous, or the upper sometimes nearly erect, on rough capillary peduncles, 10-40 flowered, the perigynia spreading-ascending; *bracts* leaf-like, sheaths short; *scales* lanceolate to ovate-lanceolate, acute to cuspidate or strongly awned, narrower than the perigynia, greenish-white but tinged with yellowish-brown, with a conspicuous green, 3-nerved rough centre; *perigynia* 5-6 mm long, orbicular in cross-section, the body subglobose to oblong-globose, glabrous, greenish-straw-coloured, glossy, nerveless except for the two prominent lateral ribs, short-stipitate, very abruptly


BRITISH COLUMBIA
Sprengel's sedge
(Carex sprengelii)
MILES
0 100 200
0 100 200 300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W



Sprengel's sedge *(Carex sprengelii)*

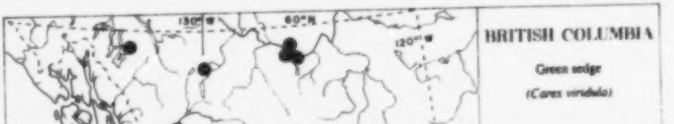
contracted into a smooth, slender beak equalling or longer than the body, at length deeply bidentate; *achenes* obovoid, obtusely trigonous; *stigmas* 3.

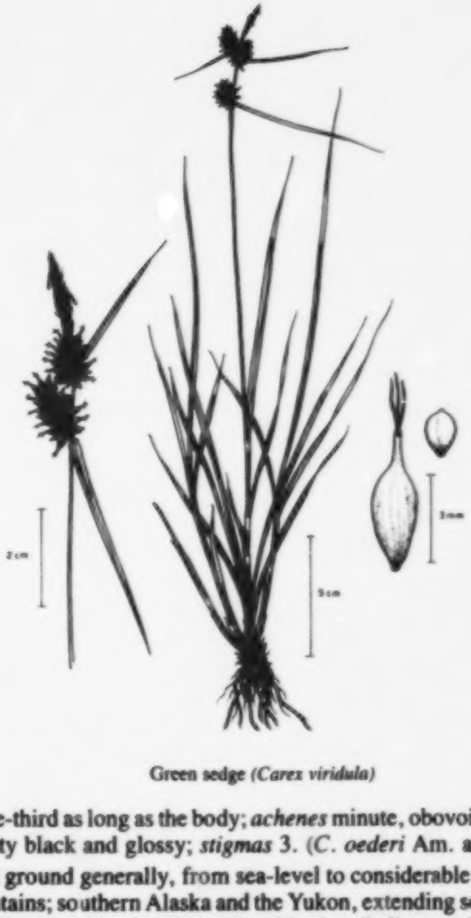
Moist areas generally, gravel, sand, alluvial thickets, etc.; British Columbia to New Brunswick, southward to Colorado, Nebraska and Delaware; rare in British Columbia.

37. EXTENSAE

83. *Carex viridula* Michx. **Green sedge**

Densely caespitose in small clumps. *Culms* up to 30 cm tall, stiff, pale brown and fibrillose at the base, dried leaves of the previous year conspicuous. *Leaves* commonly 4-8 to a culm, on the lower half, rather thick, 1-3 mm wide, channeled. *Terminal spike* usually staminate, linear, up to 15 mm long, sessile or short-peduncled; pistillate spikes 2-6, erect, oblong or globose-oblong, 5-11 mm long, perigynia 15-30, spreading, the upper spikes closely aggregated and nearly sessile, the lowest more or less separated and short-peduncled; *bracts* conspicuous, leaf-like, many times exceeding the inflorescence, sheaths up to 18 mm long; *scales* obovate, usually short-cuspidate, reddish except for the greenish 3-nerved centre and narrow hyaline margins, narrower than the perigynia and about half their length; *perigynia* obovoid, slightly flattened, 2-3 mm long, obtusely trigonous, several- to many-ribbed, yellowish green, puncticulate, abruptly contracted into a straight, minutely bidentate beak


BRITISH COLUMBIA
Green sedge
(Carex viridula)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
50° N
120° W
130° W



Green sedge *(Carex viridula)*

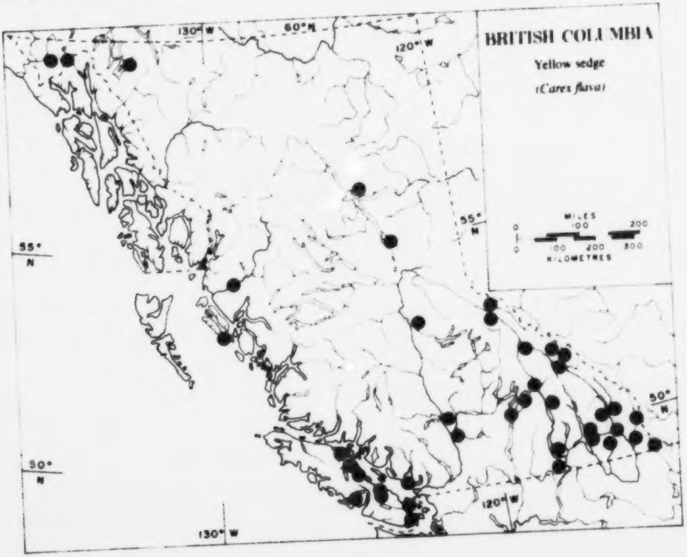
about one-third as long as the body; *achenes* minute, obovoid, trigonous, at maturity black and glossy; *stigmas* 3. (*C. oederi* Am. auth.)

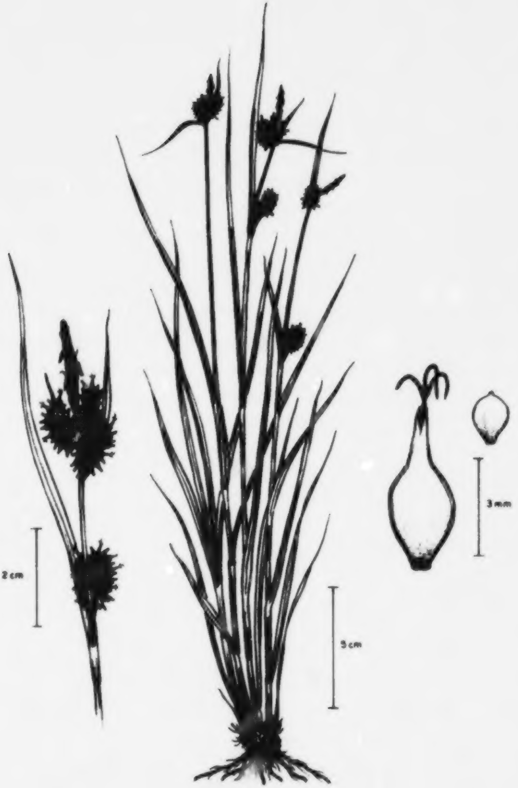
Wet ground generally, from sea-level to considerable elevations in the mountains; southern Alaska and the Yukon, extending south to northwest California, Nevada, Utah, New Mexico, Indiana and New Jersey; found generally throughout British Columbia.

Yellow sedge

84. *Carex flava* L.

Densely caespitose, rootstocks very short. *Culms* up to 8 dm tall, stiff, usually exceeding the leaves, light brown, somewhat fibrillose at the base. *Leaves* 4-8 to a culm, mostly from near the base, flat or channeled below, 3-5 mm wide, sheaths dull-white ventrally, truncate at the mouth. *Terminal spike* staminate (rarely partly pistillate), sessile or short-peduncled, linear, up to 2 cm long; *pistillate spikes* 2-5, sometimes staminate at the apex, contiguous or the lower more or less separate, the upper nearly sessile, the lower more or less strongly peduncled, short-oblong to suborbicular, 5-19 mm long, perigynia crowded in several rows, their beaks deflexed; *bracts* conspicuous, leaf-like, erect, divergent, much exceeding the inflorescence; *scales* ovate to ovate-lanceolate, acute to cuspidate, narrower and much shorter than the perigynia, reddish except for the pale, 3-nerved centre and narrow hyaline margins; *perigynia* 4.0-6.5 mm long, obovoid, yellowish-green becoming yellow with age, conspicuously several- to many-ribbed, obliquely contracted into a slender, more or less serrulate, bidentate beak about as long as the





Yellow sedge *(Carex flava)*

body, the slender teeth reddish-tinged; *achenes* obovoid, trigonous, yellowish-brown; *stigmas* 3.

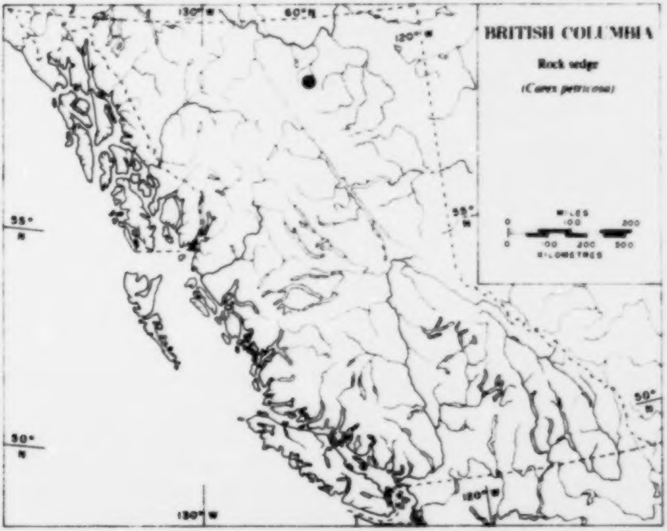
Wet, usually sandy, often calcareous, places from low to moderate elevations; circumboreal, southern British Columbia to Newfoundland, south to New Jersey, Pennsylvania, Indiana, and Montana; in British Columbia, occurs mostly in the southern half of the province.

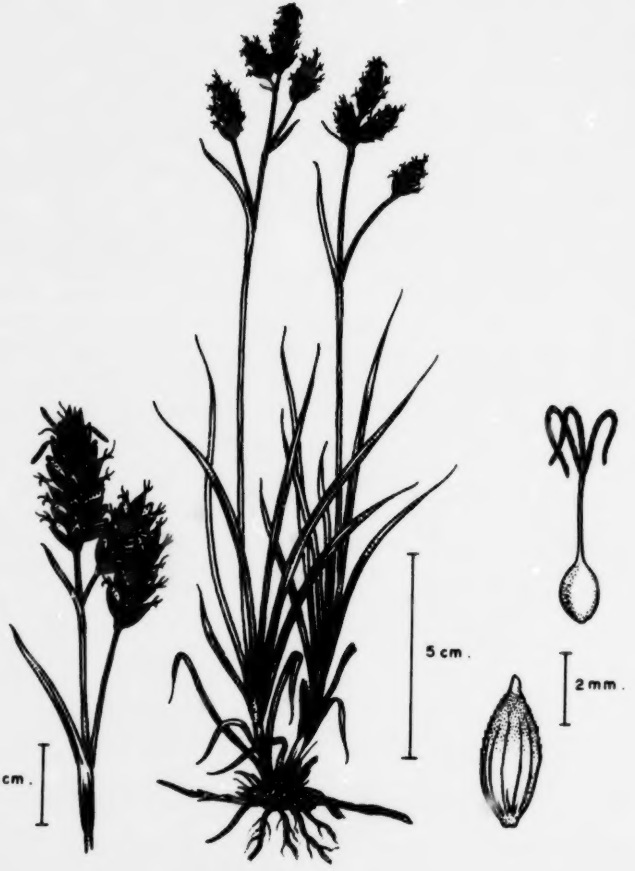
38. FERRUGINEAE

85. *Carex petricosa* Dewey **Rock sedge**

Stoloniferous, rootstocks long, scaly. *Culms* slender, up to 3.5 dm tall, slightly longer than the leaves, obtusely angled, smooth. *Leaves* 2-3 mm broad, revolute-margined, greyish-green, somewhat curly. *Spikes* 3-5, the uppermost 1 or 2 staminate or sometimes pistillate at the base, the lower entirely pistillate or with a few staminate flowers at the top, erect-ascending, long-peduncled, the lowermost usually remote; *bracts* long-sheathing, blade long, leaf-like; *pistillate scales* oblong-ovate, obtuse or acute, dark brown with pale membranous margins and pale midveins, slightly shorter than the perigynia; *perigynia* 4-5 mm long, lanceolate to ovate-elliptic, dark brown, the very short beak scabrous; *stigmas* 3.

Stony, often calcareous, mountain slopes; Alaska, Yukon and extreme northern British Columbia; known in British Columbia from near Summit Pass near the Yukon border.

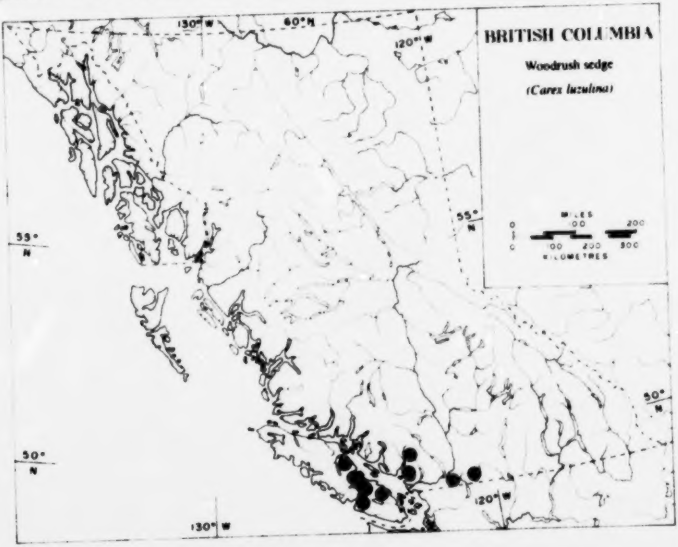

BRITISH COLUMBIA
Rock sedge
(Carex petricosa)
MILES
0
100
200
0
100
200
300
KILOMETRES
130°W
60°N
120°W
55°N
55°N
50°N
50°N
130°W
120°W

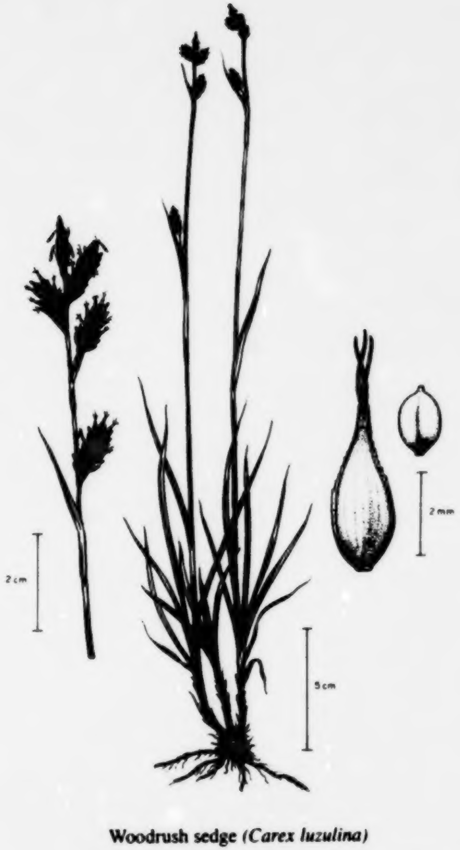


Rock sedge (*Carex petricosa*)

86. *Carex luzulina* Olney **Woodrush sedge**

Densely caespitose from short-slender rootstocks. *Culms* up to 6 dm tall, much exceeding the leaves, fibrillose and brownish-tinged at the base, old leaves conspicuous. *Leaves* 4-9 to a culm, clustered near the base, blades flat, rather thick and stiff, 3-4.5 mm wide. *Terminal spike* staminate but often with a few perigynia, erect, sessile or subsessile, little exceeding the upper pistillate spike; *pistillate spikes* 3-6, the lower distant, long-peduncled, the upper closely approximate to the staminate spike, spikes oblong, 7-20 mm long, closely many-flowered, perigynia spreading-ascending; *bracts* leaf-like, long-sheathing, much shorter than the culms; *scales* ovate, shorter than the perigynia, obtuse, more or less ciliate, reddish-brown, centre paler, margins somewhat hyaline, the midvein usually not extending to the apex; *perigynia* lanceolate 4-5 mm long, flattened-trigonous, glabrous, puncticulate, margins ciliate-serrulate, light-green to yellowish-green, purplish-black-tinged, 2-ribbed and obscurely few-nerved, round-tapering at the sessile base, tapering at the apex to a minute, dark, bidentulate beak; *achenes* obovoid, sharply trigonous with concave sides; *stigmas* 3. (*C. ablata* Bailey).



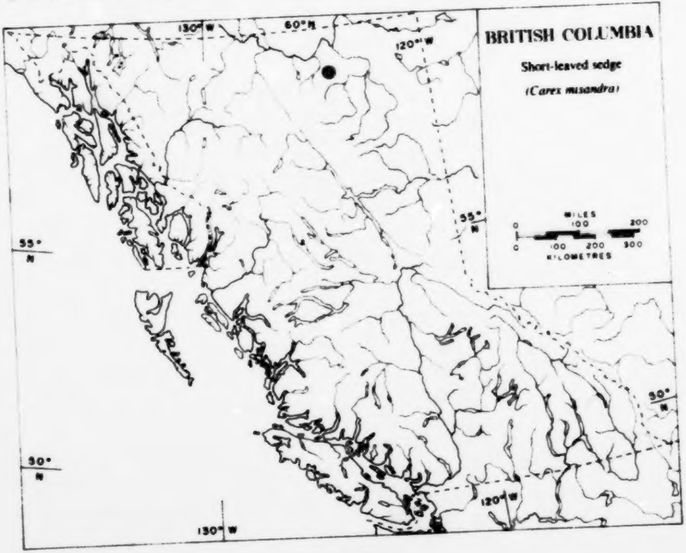


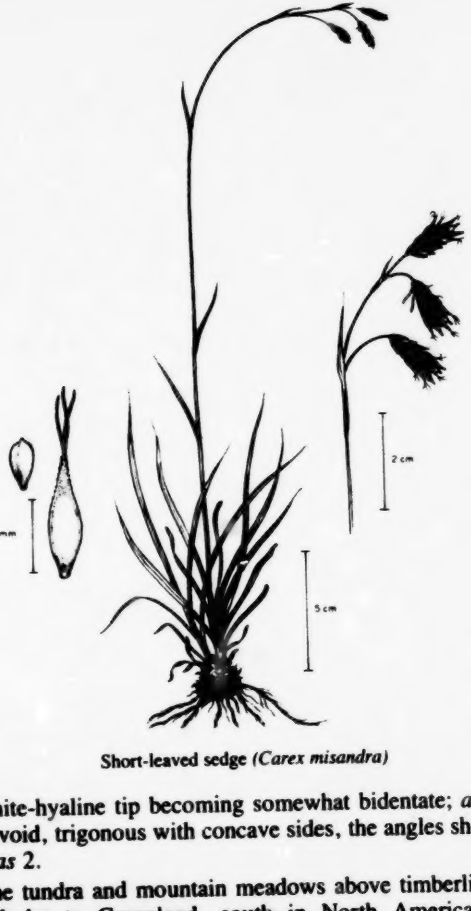
Woodrush sedge *(Carex luzulina)*

Mountain meadows and bogs; southern British Columbia to California, east to Idaho, southwest Montana, eastern Wyoming and western Utah; extreme southwestern British Columbia including Vancouver Island.

87. *Carex misandra* R.Br. **Short-leaved sedge**

Densely caespitose, rootstocks, very short. *Culms* up to 3 dm tall, slender, erect, nodding, much exceeding the leaves, brownish-tinged at base, dried leaves of the previous year conspicuous. *Leaves* numerous, mostly clustered near the base, long-attenuate, 1.5-3.5 mm wide, thickish, channeled below, more or less flattened above, dying back from the tip. *Terminal spike* pistillate above, slender-peduncled, drooping; pistillate spikes 2-3, approximate or more or less separate, up to 20 mm long, the upper erect on shortly exserted peduncles, oblong or linear-oblong, clavate at base, closely flowered, perigynia appressed-ascending; *lowest bract* long-sheathing, blade short or nearly wanting, upper reduced, bladeless or nearly so; *scales* ovate, thin, blackish, apex and margin white-hyaline, wider but shorter than the perigynia; *perigynia* narrowly lanceolate, 3.5-5.0 mm long, flattened-trigonous, membranous, purplish-black above, greenish-white to straw-coloured below, 2-edged and obscurely few-nerved toward the base, tapering to the short-stipitate base, long-tapering and conspicuously ciliate-serrulate toward the apex, the ob-


BRITISH COLUMBIA
Short-leaved sedge
(Carex misandra)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
130° W
120° W



Short-leaved sedge *(Carex misandra)*

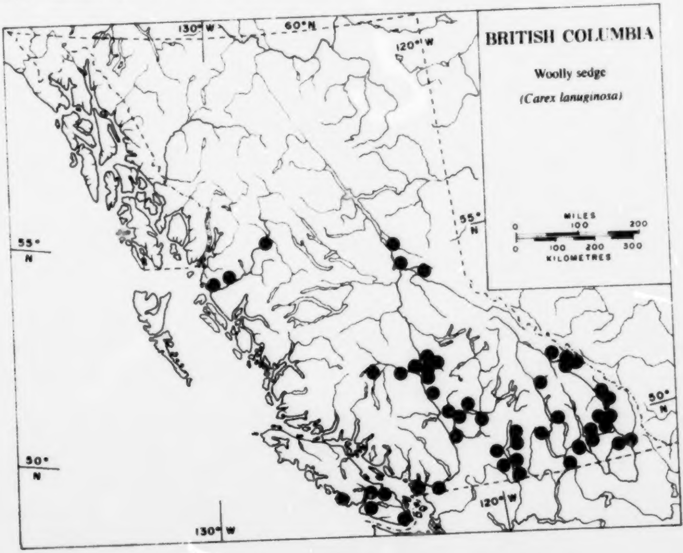
liquely white-hyaline tip becoming somewhat bidentate; *achenes* narrowly obovoid, trigonous with concave sides, the angles sharp, brownish, *stigmas* 2.

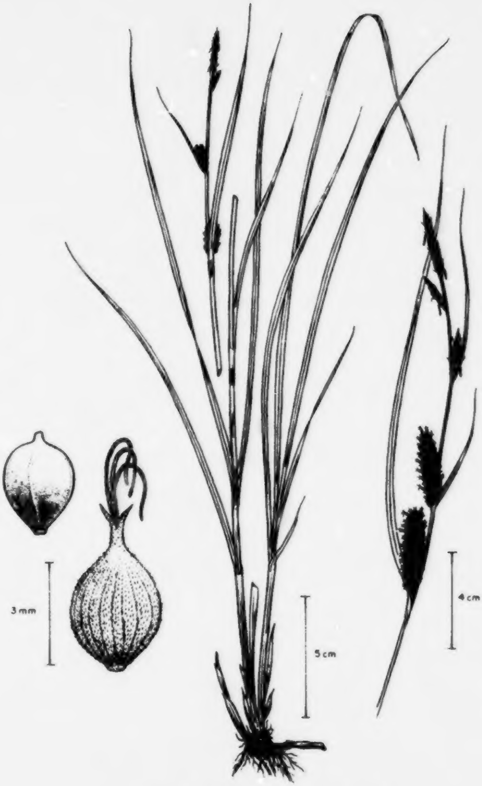
Alpine tundra and mountain meadows above timberline; circumboreal; Alaska to Greenland, south in North America to British Columbia, Alberta, Montana, Wyoming, Colorado and Utah, also in Quebec; known in British Columbia only from Summit Pass at about Lat. 58° 30′ N.

39. HIRTAE

88. *Carex lanuginosa* Michx. **Woolly sedge**

Caespitose, rhizomes long, scaly. *Culms* up to 10 dm tall, in large beds, stiff, erect, sharply triangular, rough above, dark reddish-purple at base, lower sheaths filamentose. *Leaves* 2-5 to a culm, septate-nodulose, dull-green, flat with revolute margins, often exceeding the culms, 2-5 mm wide, attenuate, sheath vinous-red-tinged. *Staminate spikes* usually 2, slender, long-peduncled; *pistillate spikes* 2 or 3, widely separate, erect, sessile or short-peduncled, oblong-cylindric, 1.5-5.0 cm long, closely many-flowered, the perigynia ascending; *bracts* sheathless or nearly so, the lowest usually somewhat exceeding the culm; *scales* lanceolate, long-acuminate, mucronate or awned, ciliate, narrower than the perigynia, the lower usually exceeding them, the upper shorter, reddish-brown, centre broad, 3-nerved, green, margins hyaline; *perigynia* ascending, broadly obovoid or ovoid, 2.5-3.5 mm long, coriaceous, somewhat inflated, dull brownish-green, densely soft-hairy, the numerous


BRITISH COLUMBIA
Woolly sedge
(Carex lanuginosa)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W



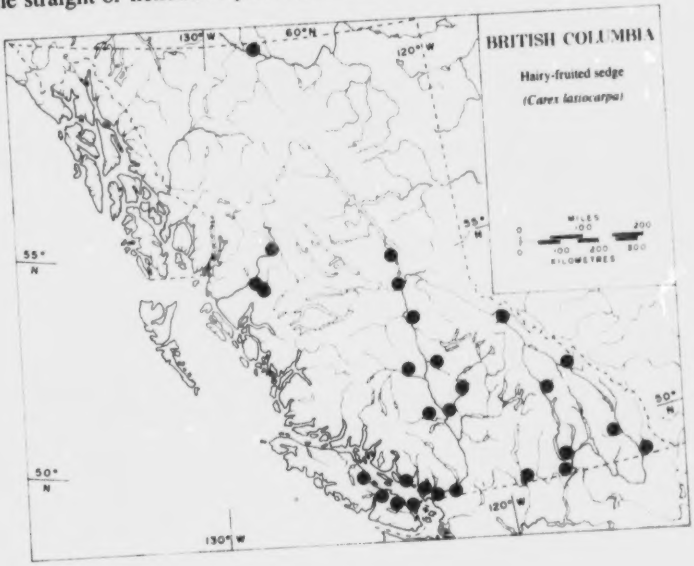
Woolly sedge *(Carex lanuginosa)*

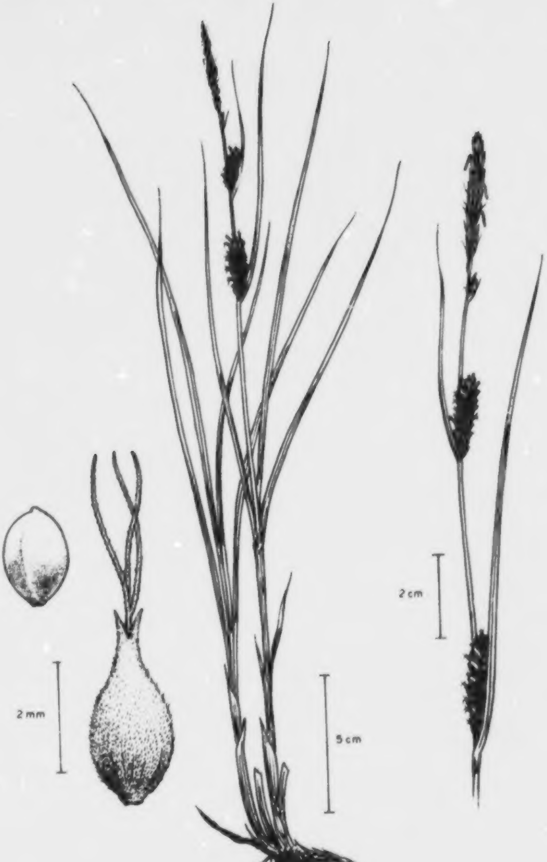
ribs generally hidden, rounded at the sessile base, abruptly contracted into a very short beak about 1 mm long, deeply bidenetate, teeth erect, about half as long as the beak; *achenes* broadly ovoid, trigonous, yellowish-brown, sessile, short-apiculate; *stigmas* 3.

Meadows, stream banks and ditches; Alaska to New Brunswick, south to California, New Mexico and Tennessee; common in southern British Columbia.

89. *Carex lasiocarpa* Ehrhart **Hairy-fruited sedge**

Loosely caespitose; rootstocks long-creeping, rhizomes long, tough, scaly. *Culms* up to 12 dm tall, obtusely triangular, reddish at base, lower sheaths long, filamentose, sterile shoots numerous, long. *Leaves* 2-5 to a culm, blades 7 dm × 2 mm or less in width, flattish at base, involute above, septate-nodulose, tip attenuate, soon drying. Two *upper spikes* usually staminate, 2-6 cm long, slender-peduncled; *pistillate spikes* 1-3, 5-50 mm long; *bracts* sheathless or nearly so, lowest much exceeding the culm; *scales* acute to cuspidate or awned, somewhat ciliate at the tip, narrower than the perigynia, the staminate light-reddish-brown, margins dull-hyaline, centre light, the pistillate purplish-brown, margins dull-hyaline, centre green, 3-nerved; *perigynia* numerous, 3-5 × 1.75 mm, ascending, suborbicular, inflated, coriaceous, dull-brownish-green, densely hairy, obscurely ribbed, beak about 1 mm long, bidentate; *achenes* about 2 mm long, triangular with concave sides, angles blunt, loosely enveloped, yellowish-brown, bent-apiculate, jointed with the straight or flexuous style; *stigmas* 3.


BRITISH COLUMBIA
Hairy-fruited sedge
(Carex lasiocarpa)
130° W
60° N
120° W
55° N
50° N
120° W
130° W
MILES
0 100 200
0 100 200 300
KILOMETRES



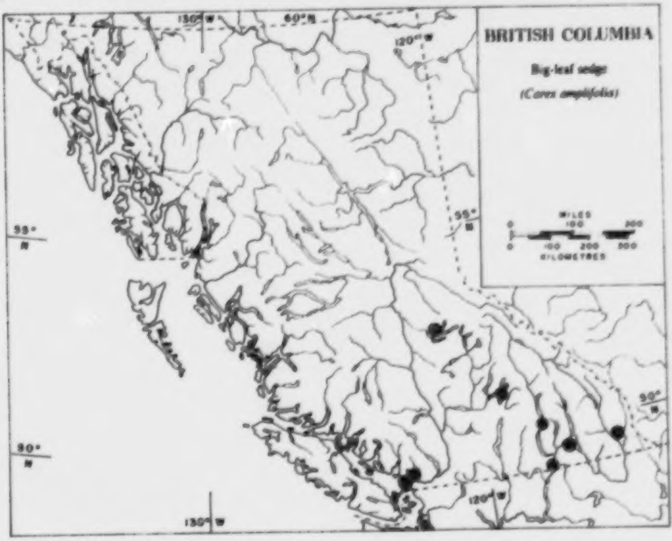
Hairy-fruited sedge *(Carex lasiocarpa)*

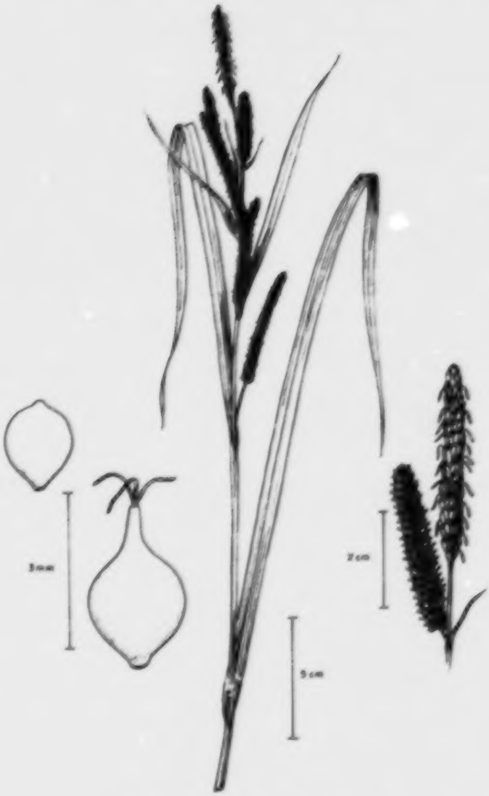
Bogs and sphagnum swamps; circumboreal, in North America from British Columbia to Keewatin and Newfoundland, south to Washington, Idaho, Iowa, Indiana, and New Jersey; general in British Columbia but commonest south of Lat. 55° N.

40. ANOMALAE

90. *Carex amplifolia* Boott **Big-leaf sedge**

Loosely caespitose, rhizomes long, tough, stout, scaly. *Culms* stout, up to 11 dm tall, sharply triangular, rough above, usually dark red-tinged toward the base, dried leaves of the previous year conspicuous. *Leaves* 6-12 to a culm, septate-nodulose, flat, margins scabrous, 8-18 mm wide, the two midlateral veins very prominent above, sheaths more or less hispidulous dorsally. *Staminate spike* solitary, linear, short-peduncled; *pistillate spikes* 3-6, the upper approximate, the lower more or less separate, short-peduncled to sessile, peduncle rough, spikes linear-cylindric, up to 14 cm long, about 7 mm wide, the numerous perigynia spreading; *lower bract* leaf-like, exceeding the inflorescence, short sheathed, the uppermost much reduced; *scales* varying from lanceolate and acuminate or awned to ovate and acute, narrower than the perigynia and shorter, brownish-red with lighter 3-nerved centre and hyaline apex; *perigynia* ovoid, about 3 mm long, obtusely trigonous, brownish-green, glabrous or nearly so, 2-ribbed, otherwise nerveless, rounded at base,


BRITISH COLUMBIA
Big-leaf sedge
(Carex amplifolia)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W



Big-leaf sedge *(Carex amplifolia)*

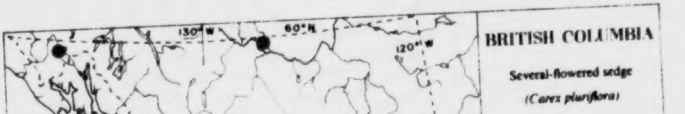
abruptly contracted into a conic, more or less excurved beak nearly the length of the body, slightly bidentate; *achenes* small, broadly obovoid, trigonous, brown, granular; *stigmas* 3.

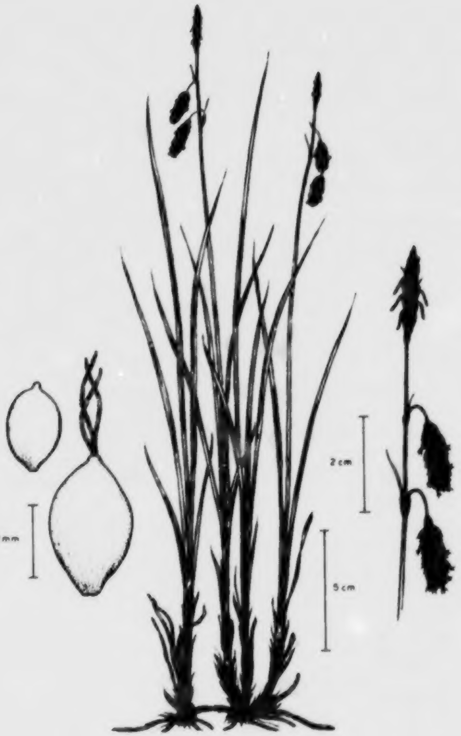
Damp soil along streams and in meadows; British Columbia to Idaho, south to California; in British Columbia apparently limited to the southern half of the province.

41. LIMOSAE

91. *Carex pluriflora* Hultén **Several-flowered sedge**

Loosely caespitose, rhizomes long, purplish-black, scaly, roots yellowish, tomentose, *Culms* about as long as the leaves, up to 6 dm tall, arising singly or few together, clothed with old leaf bases. *Leaves* 3-5 on a culm, on the lower fourth, 2-4 mm wide, grayish-green, flat with revolute margins, finely white-papillate on the lower surface. *Terminal spike* staminate, long-peduncled, blackish; *pistillate spikes* 1-3, not aggregated, nodding on long slender peduncles, 10-25 flowered, *lowest bract* leaf-like, sheathless, always shorter than the spike and usually shorter than the peduncle, upper bracts shorter; *scales* broadly ovate, acute or cuspidate, black median nerve pale, awn sometimes as much as 1 mm long; *perigynia* appressed-ascending, ovate to ovate-lanceolate, slightly shorter than the scales, pale to blackish-brown at maturity, densely papillate, 3.0-4.5 mm long, obscurely many-nerved, or only the marginal


BRITISH COLUMBIA
Several-flowered sedge
(Carex pluriflora)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
130° W
120° W



Several-flowered sedge *(Carex pluriflora)*

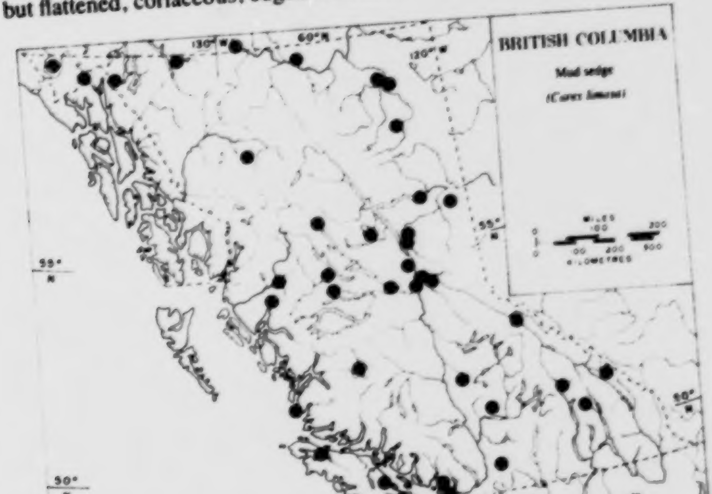
nerves evident, beakless, *achenes* trigonous, loosely enveloped, apiculate; *stigmas* 3. (*C. stygia* of auth.)

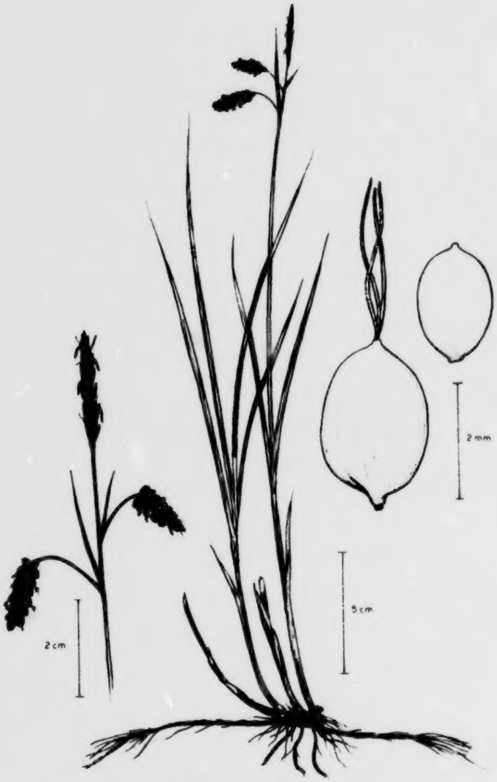
Bogs, marshes and stream banks near the coast, sometimes in brackish marshes; Alaska to Washington; northeast Asia; general along the coast of British Columbia.

Mud sedge

92. *Carex limosa* L.

Barely caespitose, rhizomes long, scaly, slender. *Culms* one to several, slender, up to 6 dm tall, much exceeding the leaves, sharply triangular, usually purplish-red at base. *Leaves* 1-3 to a culm, on the lower third, deeply channeled, more or less glaucaus, 1-3 mm wide. *Terminal spike* staminate, solitary, slender, linear, long-peduncled, erect or drooping, 15-27 mm long; *pistillate spikes* 1-3, slightly separate, drooping on very slender, smooth peduncles 1-3 times the length of the spike, spikes oblong, 1.0-2.5 cm long, occasionally with a few terminal staminate flowers, perigynia 8-30, appressed; *lowest bract* leaf-like, narrow, sheathless or very short sheating, the upper much reduced; *scales* ovate to suborbicular, with a prominent midvein, short-tapering and acutish or rounded anb obtuse or cuspidate at the apex, from yellowish-brown to dark reddish-brown, with a green 1- to 3-nerved centre, wider than, and from about the length of, to somewhat longer than, the perigynia, persistent; *perigynia* broadly ovoid, 2.5-4.0 mm long, compressed-trigonous, thick but flattened, coriaceous, edged with thick margins, conspicuously few-





Mud sedge *(Carex limosa)*

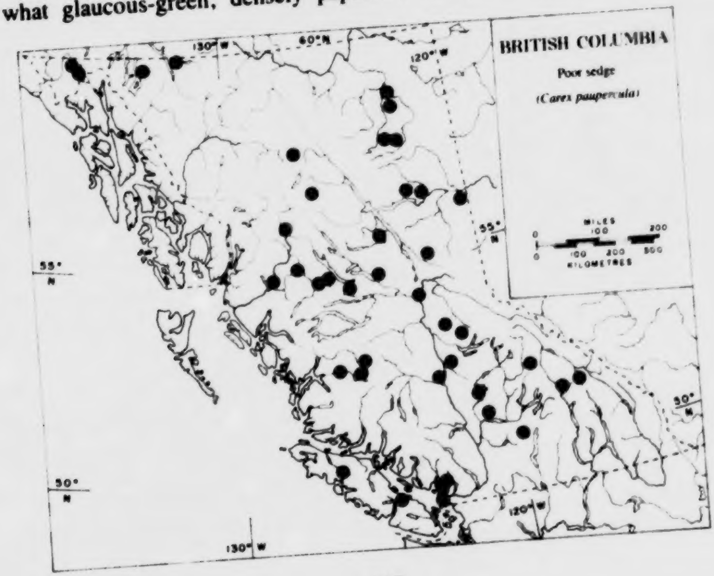
to several-nerved, glaucous-green, strongly papillate, rounded-truncate, substipitate at base, rounded and minutely beaked at the apex; *achenes* trigonous, oblong-obovoid, dark brown, sessile, apiculate; *stigmas* 3.

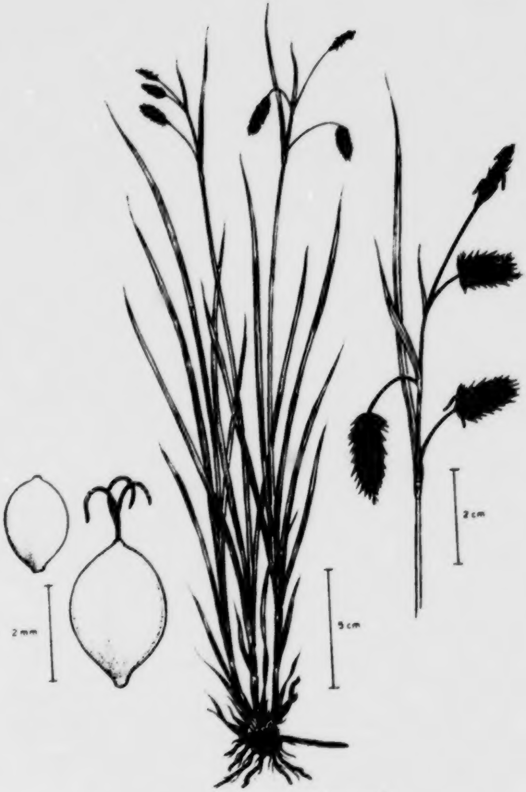
Sphagnum bogs, tundra and wet meadows; Alaska to Labrador and Newfoundland, south to California, Wyoming, Iowa and Delaware; Eurasia; general throughout British Columbia.

Poor sedge

93. *Carex paupercula* Michx.

Loosely caespitose, rootstocks slender, branching. *Culms* slender up to 8 dm tall, exceeding the leaves, reddish-brown at the base, dried leaves of the previous year conspicuous. *Leaves* 3-12, on the lower half of the culm, flat, with slightly revolute margins, 2-4 mm wide. *Terminal spike* staminate (sometimes with a few perigynia above), long-pedunculate, linear, up to 12 mm long, usually erect; *pistillate spikes* 1-4 (sometimes with a few staminate flowers at the base), approximate, drooping or somewhat erect on slender peduncles, suborbicular to oblong, perigynia 5-20, ascending; *lowest bract* leaf-like, slightly sheating at the base, equalling or exceeding the inflorescence, the upper reduced; *scales* obtuse to cuspidate, lanceolate to ovate-lanceolate, tapering at the apex, narrower and usually conspicuously longer than the perigynia, the prominent centre 3-nerved, scales castaneous or green in the centre with brownish margins, deciduous; *perigynia* broadly ovoid to broadly elliptic, about 3 mm long, compressed trigonous, coriaceous, pale or somewhat glaucous-green, densely papillate, conspicuously few-nerved,





Poor sedge *(Carex paupercula)*

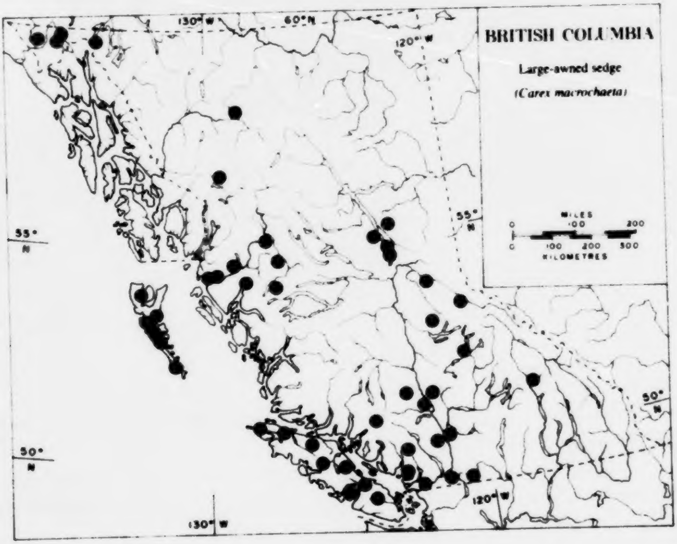
rounded and stipitate at the base, rounded at the apex and scarcely beaked; *achenes* trigonous, ovoid-oblong, apiculate; *stigmas* 3. (*C. magellanica* Lam., *C. irregua* Wahl.)

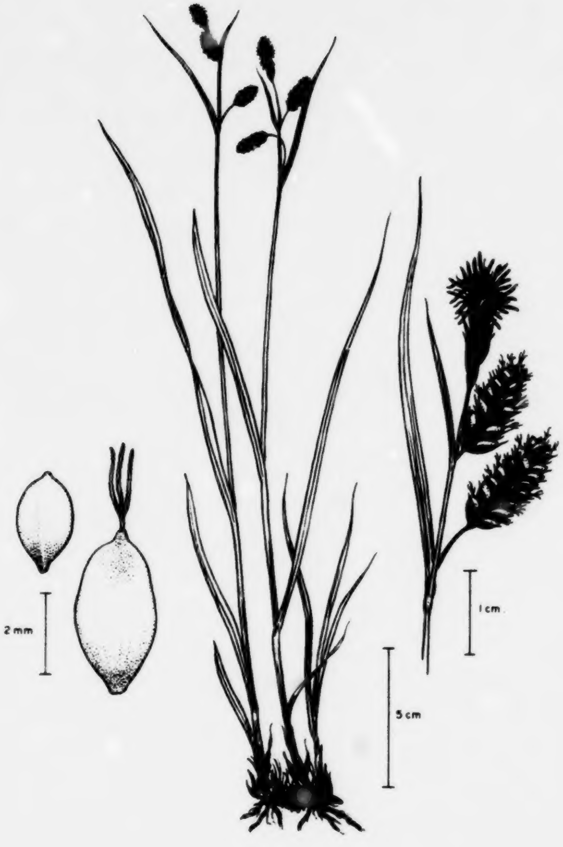
Sphagnum bogs; circumboreal, southward to British Columbia, Utah, Colorado, Minnesota and Pennsylvania; general throughout British Columbia.

94. *Carex macrochaeta* C. Meyer **Large-awned sedge**

Loosely caespitose; rootstocks short, densely matted. *Culms* to 6 dm tall, taller than the leaves, purplish-reddish-tinged and fibrillose at base. *Leaves* 2-5 to a culm, on the lower half; blades 2-5 mm wide, flat with revolute margins, firm, roughened towards the blunt apex. *Terminal spike* staminate, 15-25 mm × 4-8 mm; *lateral spikes* 2-4, pistillate, 1-3 cm × 6-8 mm, erect or drooping on slender peduncles; *lower bract* leaf-like, sheathless, often dark-auricled, upper bracts reduced; *scales* lanceolate, bifid or emarginate, cuspidate with awn up to 7 cm long, black or blackish, margins hyaline, centre lighter; *perigynia* 15-40 to a spike, elliptic-lanceolate, 4.5-6.0 mm long, appressed, compressed, thin, membranous, straw-coloured, occasionally dark-blotched, obscurely 5- to 7-nerved, beak very short, the orifice purplish, entire or obscurely emarginate; *achenes* about 2 mm lohg, triangular, loosely enveloped, brownish, stipitate, jointed with the style; *stigmas* 3 (rarely 2).

Wet situations near the coast; Alaska (Aleutian Islands) to southern British Columbia and the northeast coast of Asia; common throughout British Columbia but particularly along the coast.


BRITISH COLUMBIA
Large-awned sedge
(Carex macrochaeta)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W

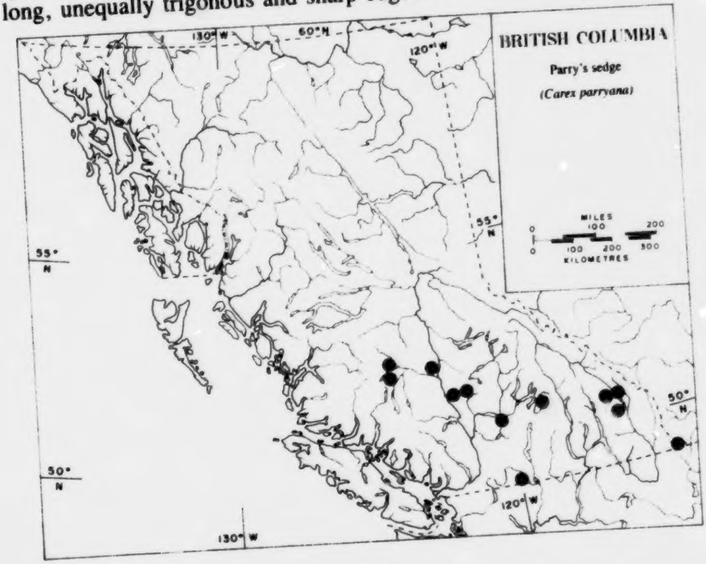


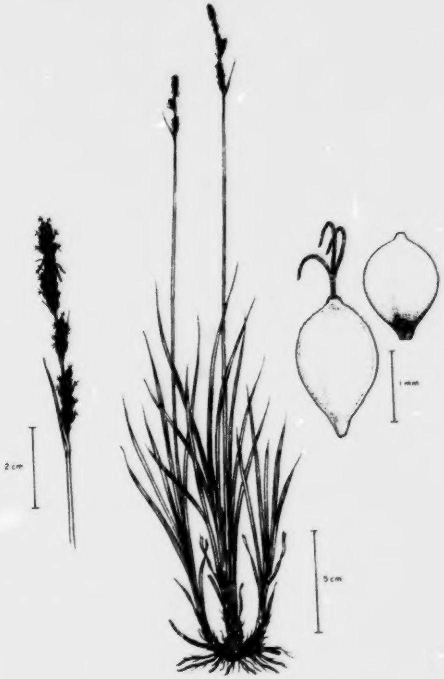
Large-awned sedge *(Carex macrochaeta)*

42. ATRATAE

95. *Carex parryana* Dewey **Parry's sedge**

Very loosely caespitose, rhizomes horizontal, long, slender. *Culms* 1.5-4.0 dm tall, usually much exceeding the leaves, stiff, reddish-tinged at the base, scarcely fibrillose, dried leaves of the previous year conspicuous. *Leaves* commonly 5-12 to a culm, clustered near the base, thin, stiff, flat with revolute margins, 3 mm wide or less, long attenuate. *Spikes* 3-5, the terminal pistillate above or essentially staminate, the lateral pistillate, separate or the upper approximate, erect, linear, up to 2 cm long, the lower short-peduncled, the upper sessile, 7-20 flowered, perigynia closely appressed; *lowest bract* usually shorter than the head, sheathless or very short-sheathing, reddish-tinged at the base, the upper much smaller; *scales* small, about 2.5 mm long, suborbicular, obtuse or short-mucronate, dark reddish-brown, with green midrib prominent to the apex, margins conspicuously white-hyaline, about the size of the perigynia and concealing them; *perigynia* broadly obovoid, 1.9-3.0 mm long, unequally trigonous and sharp-edged before maturity, glabrous,


130° W
60° N
120° W
BRITISH COLUMBIA
Parry's sedge
(Carex parryana)
MILES
0
100
200
0
100
200
300
KILOMETRES
55° N
55° N
50° N
50° N
120° W
130° W



Parry's sedge *(Carex parryana)*

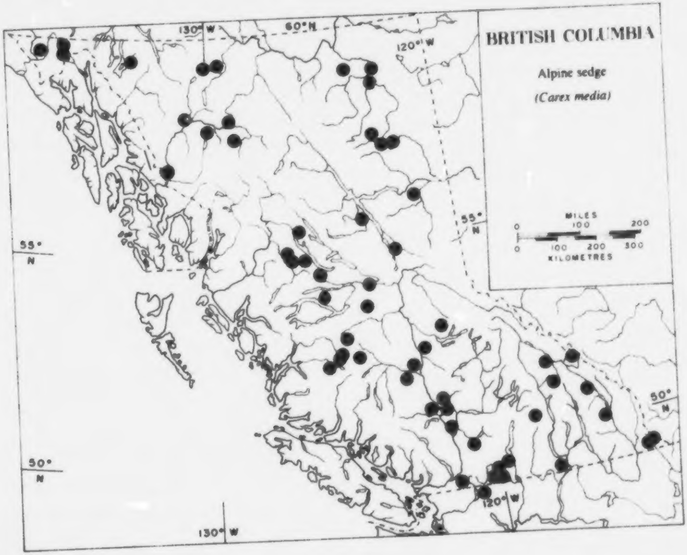
puncticulate, straw-coloured but reddish-tinged and rough-granular toward the apex, nerveless or nearly so, for the 2-ribbed, short-stipitate, tapering or somewhat rounded at the apex, scarcely beaked; *achenes* obovoid, less than 2 mm long, trigonous with concave sides, brownish, slightly granular short-stipitate, jointed with the conspicuously exserted style; *stigmas* 3.

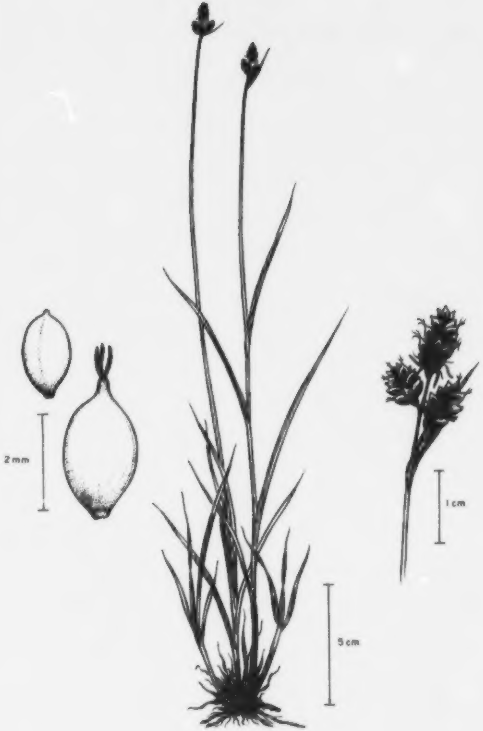
In open places, meadows, swales and dry plains up to moderate altitudes; southern Mackenzie District to northeastern Manitoba, south to North Dakota, Wyoming and Colorado; known in British Columbia in the southern interior.

Alpine sedge

96. *Carex media* R.Br.

Loosely caespitose, stolons short, slender. *Culms* up to 8 dm tall, much exceeding the leaves, slender, smooth sometimes rough above, old leaves conspicuous. *Leaves* 8-15 to a culm, bunched toward the base, 2-3 mm wide, flat with revolute margins, light-green, roughened on the margins particularly toward the attenutate tip. *Spikes* usually 3, the terminal pistillate above, the later pistillate, short-oblong to orgicular, closely aggregated or approximate; *lowest bract* sheathless, shorter than the head, darkened at the base, the upper much shorter; *scales* acutish to obtuse, nearly as wide as but much shorter than the perigynia, purple-black, margins white-hyaline; *perigynia* 8-25 to a spike, ascending, obovoid to oblong-obovoid, 2.0-3.5 mm long, obtusely trigonous, membranous, yellowish-green or brown, granular, markedly puncticulate, glabrous, 2-ribbed, nerveless on both faces, tapering at the base, rounded abruptly beaked above, beak short, bidentulate; *achenes* obovoid, trigonous, loosely enveloped, yellowish-brown, abruptly apiculate; *stigmas* 3. (*C. alpina* Am. auth., not Schranck; *C. vahlii* Am. auth., not Schkuhr; *C. norvegica* Retz. ssp. *inferalpina* Hulten, *C. angarae* Steud.)





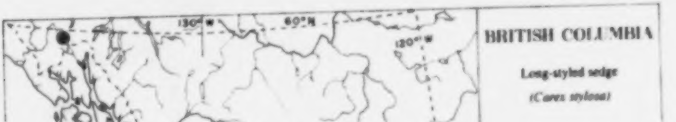
Alpine sedge *(Carex media)*

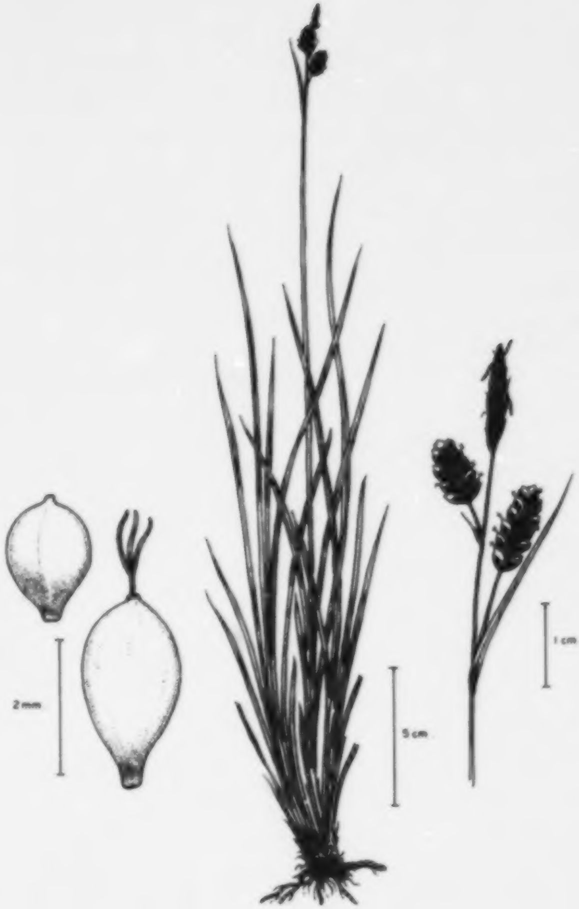
Wet, open or partially open, situations, seepage areas and drainage courses at mid to farily high elevations; Alaska to Labrador, south to Washington, New Mexico, and northern Michigan; general in the interior of British Columbia.

97. *Carex stylosa* C. Meyer **Long-styled sedge**

Caespitose, rootstocks stout, fibrillose. *Culms* up to 5 dm tall, scabrous above, papillose, purplish-reddish-tinged and fibrillose at base, old leaves conspicuous. *Leaves* 5-10 to a culm, from near the base, generally shorter than the culms, somewhat rigid, 1.5-.30 mm wide, flat with revolute margins, or channeled towards the base, roughened towards the attenuate apex; sheaths yellowish-brown-tinged ventrally. *Terminal spike* staminate or with a few perigynia, 1-2 cm × 2-4 mm *lateral spikes* 2-3, pistillate, 7-18 mm × 4.5-8.0 mm more or less peduncled; *lowest bract* leaf-like, shorter than the inflorescence, sheathless, dark-auricled, the upper reduced; *scales* obtuse to acute, dark-purple or purplish-black, margins hyaline, midrib lighter; *perigynia* 10-40 to a spike, 2.5-3.5 mm long, ascending-spreading, elliptical or ovate, dark, 2-ribbed, apiculate, beak very short, orifice entier; *achenes* 1.5 mm long, triangular, brownish, apiculate; *stigmas* 3, style prominently exserted.

Open places near the coast, muskeg; Alaska to Greenland (along the arctic coast), south to Washington, Quebec and Newfoundland; northern Eurasia; in British Columbia, restricted to the coastal regions.



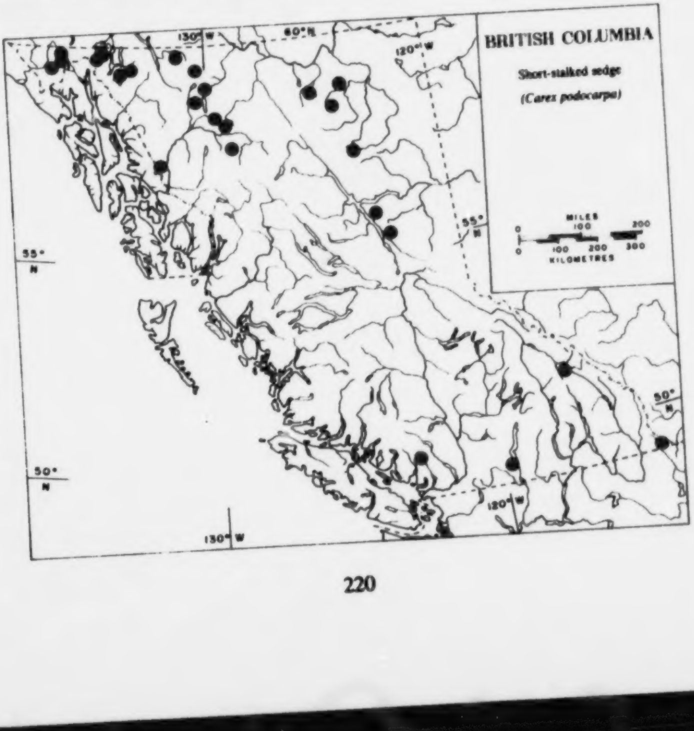


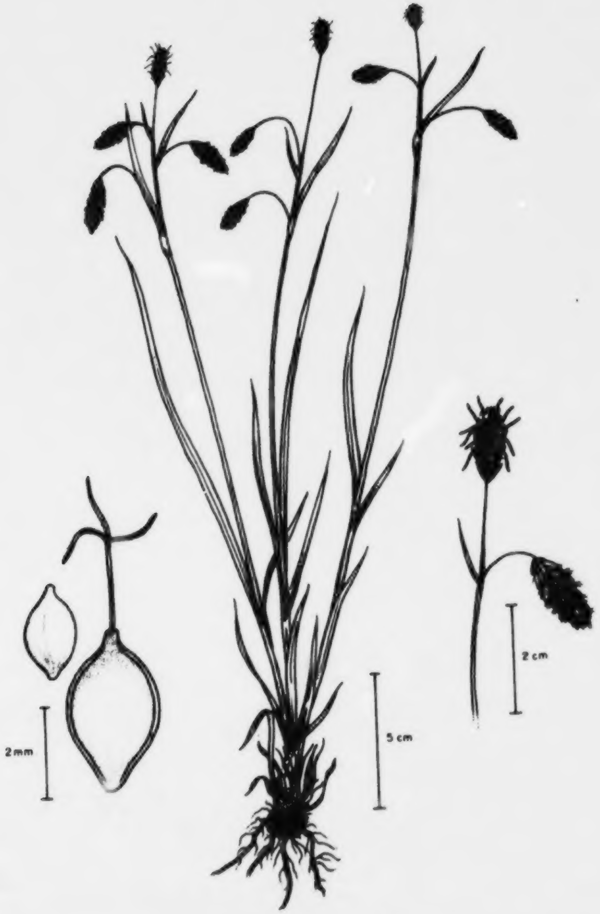
Long-styled sedge *(Carex stylosa)*

98. *Carex podocarpa* R.Br. **Short-stalked sedge**

Caespitose. *Culms* erect, 1-6 dm tall, longer than the leaves, roughened above. *Leaves* on the lower third of the culm, 2.5 mm wide, attenuate at the apex. *Spikes* 2-4, terminal staminate, the lateral pistillate, on long, slender peduncles, drooping, short cylindric to cylindric, separate; *lowest bract* short-sheathing, shorter than to barely as long as the inflorescence; *pistillate scales* broadly lanceolate, shorter than to as long as the perigynia, tips obtuse to acute, midribs inconspicuous, occasionally conspicuous; *perigynia* 3.5 mm long, ovate, much flattened, nerveless, except for the two marginal nerves, strongly blackish-tinged above, round-tapering at the apex, abruptly minutely, black-beaked, entire or finally bidentulate; *achenes* obovoid, trigonous, brownish, apiculate; *stigmas* 3. (*C. montanensis* Bailey)

Mountain meadows and along streams at high altitudes; Alaska to Northwest Territories, south to British Columbia, eastern Oregon, Idaho and Montana; found throughout the interior of British Columbia.

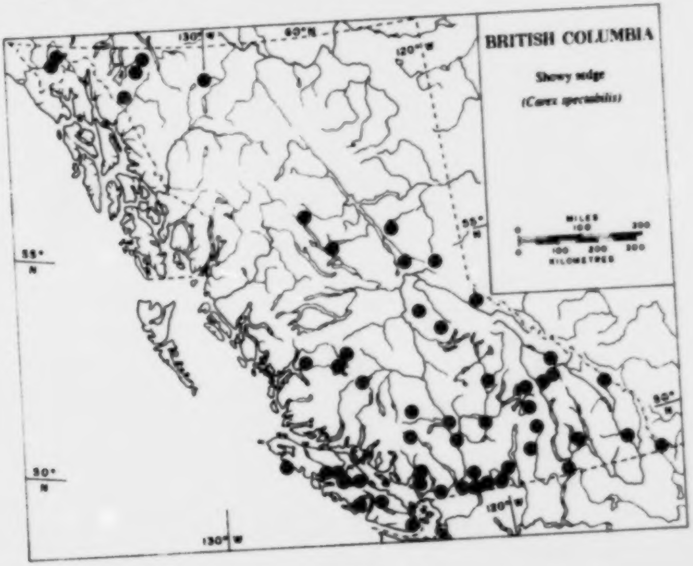

BRITISH COLUMBIA
Short-stalked sedge
(Carex podocarpa)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
130° W
120° W

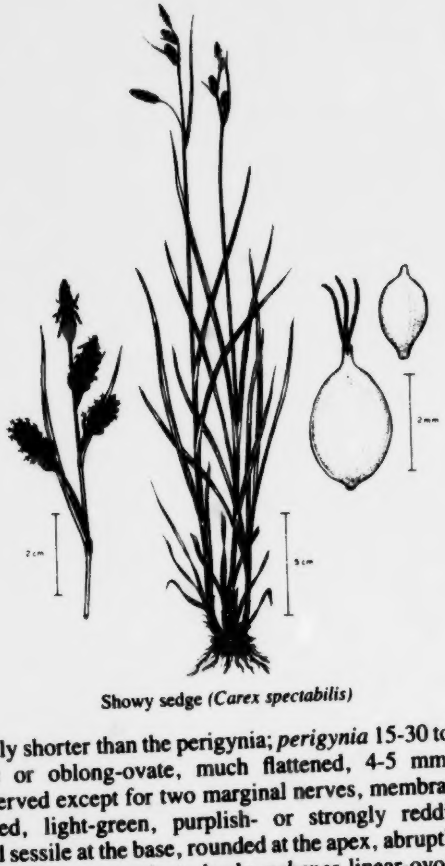


Short-stalked sedge *(Carex podocarpa)*

99. *Carex spectabilis* Dewey **Showy sedge**

Loosely caespitose, rootstocks strongly fibrous, stout, matted. *Culms* up to 9 dm tall, slender, erect, sharply triangular, more or less markedly exceeding the leaves, each arising from the centre of a tuft of dried leaves of the previous year. *Leaves* 2-5 to a culm on its lower half, strongly separate, flat, margins slightly revolute, 2-5 mm wide, firm, papillose short-tapering, sheaths elongate, very fragile, more or less yellowish-brown-tinged, and reddish-dotted ventrally. *Staminate spike* solitary or sometimes two, erect, occasionally drooping, the upper more or less peduncled, the second sessile, linear-oblong, 7-20 mm long; *scales* oblong-obovate, blackish, with a conspicuous, stout, pale midrib usually excurrent as a short cusp; *pistillate spikes* 2-4, more or less separate, erect, the upper short-peduncled or nearly sessile, the lower more strongly peduncled, oblong to linear-oblong, 1-3 cm long, closely flowered; *lower bract* leaf-like, sheathless, shorter than or exceeding the inflorescence; upper bracts reduced, often dark-tinged auricled; *scales* oblong-ovate, dark reddish with conspicuous, stout, pale midrib prominent to the apex and often excurrent as a very short cusp, usually narrow-





Showy sedge *(Carex spectabilis)*

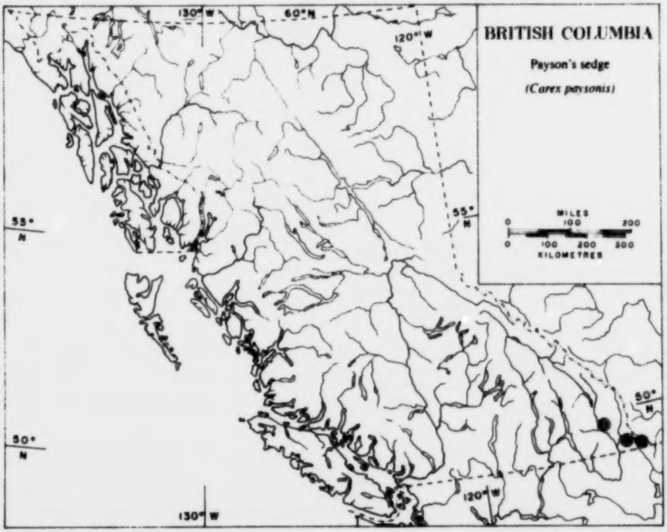
er and slightly shorter than the perigynia; *perigynia* 15-30 to a spike, oblong-elliptic or oblong-ovate, much flattened, 4-5 mm long, very obscurely nerved except for two marginal nerves, membranous, granular-roughened, light-green, purplish- or strongly reddish-blotched, rounded and sessile at the base, rounded at the apex, abruptly tipped by a short bidentulate or emarginate beak; *achenes* linear-ovoid, trigonous with blunt angles, loosely enveloped, light-brown, puncticulate, stipitate, apiculate; *stigmas* 3.

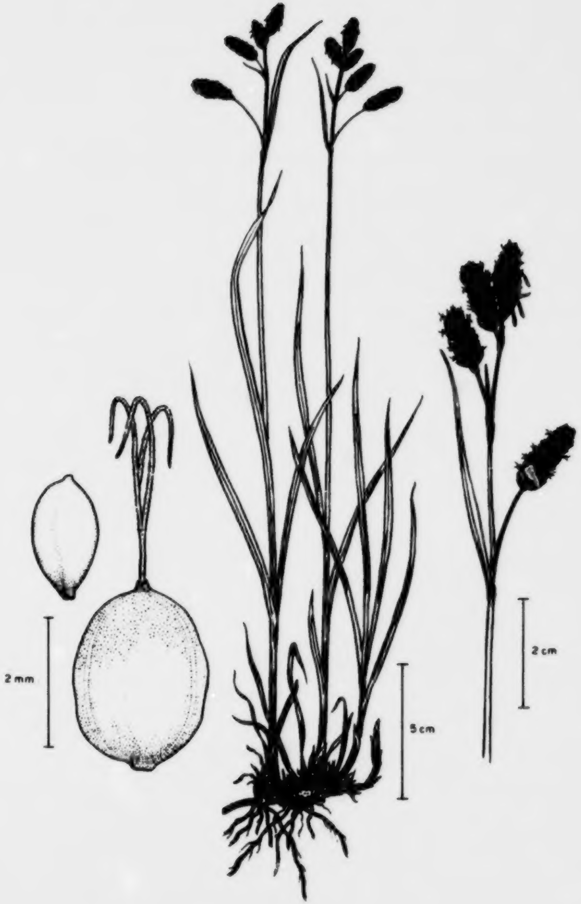
Mountain meadows and wet, rocky slopes from mid to high elevations; Yukon to Alberta, southward to California and western Montana; widely distributed in British Columbia but commoner in the south.

100. *Carex paysonis* Clokey **Payson's sedge**

Caespitose. *Culms* stiff, erect, up to 3.5 dm tall, exceeding the leaves, often roughened about. *Leaves* basal, stiff, coarse, erect, 2-6 mm wide, spices short-attenuate. *Spikes* 3 or 4, the terminal staminate, occasionally with one or two very small staminate spikes at its base, the other lateral spikes pistillate; spikes broadly short-cylindric, oblong, sessile to short-pedunculate, closely approximate, the lowest somewhat separate, long-pedunculate, erect to spreading; *lowest bract* leaf-like, shorter to barely longer than the inflorescence; *pistillate scales* very narrowly lanceolate, conspicuously narrower than, and shorter to barely longer than, the perigynia, midrib inconspicuous to raised and conspicuous, apex acute; *perigynia* 3.5 mm long, broadly elliptic to orbicular, reddish-black with greenish-yellow nerves, somewhat papillose above, abruptly beaked, beaks entire to bidentulate; *achenes* oblong-obovoid, about 1.75 mm long, trigonous, light brown; *stigmas*. 3.

Mountain meadows; southern British Columbia to Alberta, south to eastern Oregon, Utah, Wyoming, Montana and Idaho; in British Columbia, known only from the extreme southeastern corner.



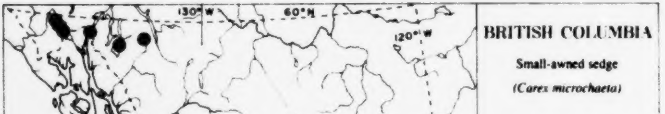


Payson's sedge *(Carex paysonis)*

101. *Carex microchaeta* Holm **Small-awned sedge**

Caespitose. *Culms* stiff, erect, up to 2.5 dm tall, usually taller than the leaves. *Leaves* basal, 2-5 mm wide, erect, stiff, tips attenuate. *Spikes* 3 or 4, the terminal staminate, the lateral pistillate, rarely staminate above, cylindric, pedunculate, approximate, erect to spreading, the lowermost sometimes long-pedunculate and drooping; *lowermost bract* leaf-like, short-sheathing, shorter than to as long as the inflorescence; *pistillate scales* lanceolate, as long as the perigynia, the tips acute and often ending in a short mucro; *perigynia* 3 mm long, ovate, reddish-brown to purple, papillose, nerved or nerveless, abruptly short-beaked, beaks shallowly bidentate; *achenes* 1.75 mm long, light brown, trigonous; *stigmas* 3. (*C. podocarpa* of some auth.)

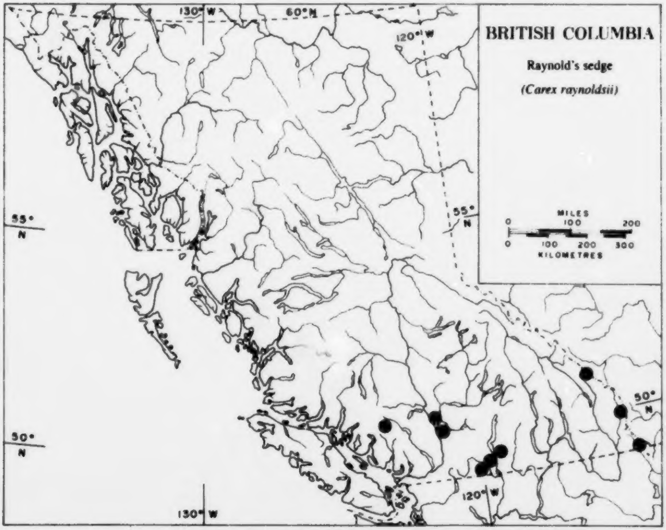
Wet meadows and peaty soil; Alaska to Northwest Territories, south to northern British Columbia; known in British Columbia from the northern interior.

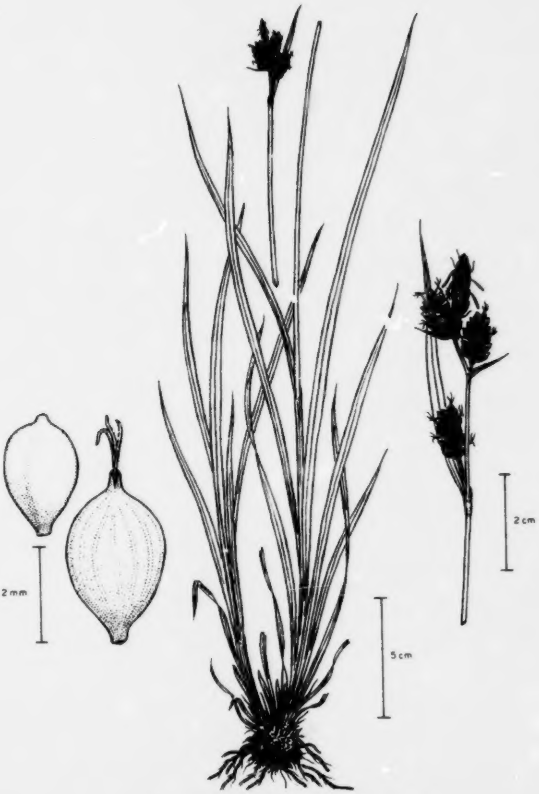

130° W
60° N
120° W
BRITISH COLUMBIA
Small-awned sedge
(Carex microchaeta)
MILES
0 100 200
0 100 200 300
KILOMETRES
55° N
55° N
50° N
50° N
130° W
120° W

(Not illustrated)

102. *Carex raynoldsii* Dewey **Raynold's sedge**

Loosely caespitose, rootstocks stout, scaly. *Culms* up to 8 dm tall, usually exceeding the leaves, erect, stiff, angles rather sharp, reddish at the base, dried leaves of the previous year conspicuous. *Leaves* 5-10 to a culm, clustered toward the base, stiff, flat with revolute margins, 3-8 mm wide, attenutate. *Terminal spike* staminate, sessile or nearly so, linear, up to 2 cm long, scales reddish-brown with a pale centre; *pistillate spikes* 2-4, approximate or the lowest slightly separate, erect, the upper sessile or nearly so, the others more or less strongly pedunculate, oblong, 1-2 cm long, densely flowered, perigynia spreading-ascending; *bracts* sheathless, dark-auricled, the lowest leaf-like, about equalling the inflorescence, the others much reduced; *scales* broadly ovate, shorter than the perigynia, dark reddish-black, the midrib paler but often obsolete; *perigynia* oblong-oval, somewhat inflated, suborbicular in cross-section, about 4 mm long, glabrous, puncticulate, 2-ribbed, strongly several-nerved, yellowish-green to yellowish-brown, round-tapering at its subsessile base, rounded at the apex and abruptly contracted into a minute, red-tinged beak; *achenes* obovoid, about 2.5 mm long, trigonous





Raynold's sedge *(Carex raynoldsii)*

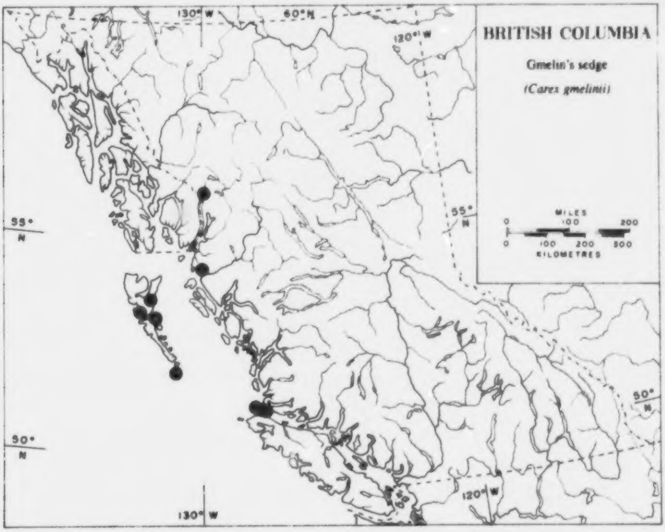
with thickened angles, yellowish-brown, minutely granular, apiculate; *stigmas* 3.

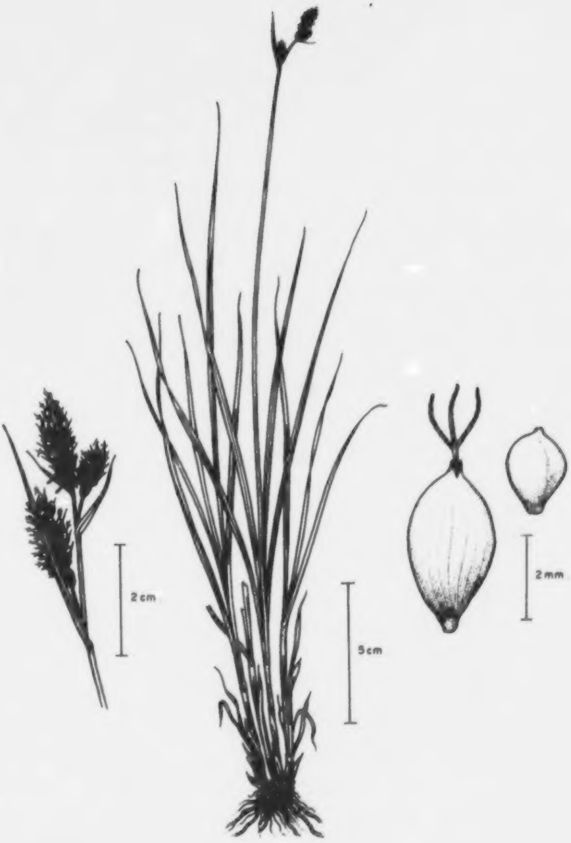
Mountain meadows and open woods in the subalpine and lower altitudes; British Columbia to California, east to Alberta, Colorado, Utah and Nevada; in British Columbia found in the southern valleys of the interior.

103. *Carex gmelinii* Hood. & Arn. Gmelin's sedge

Densely caespitose, rootstocks short, stout, scaly. *Culms* coarse, up to 6 dm tall, roughened above, papillose, purplish-reddish-tinged at base, old leaves conspicuous. *Leaves* 3-5 to a culm from near the base, blades 3-5 mm broad, flat with revolute margins or channeled towards the base, firm, light green, papillose, roughened towards the attenuate apex. *Spikes* 3-6, terminal pistillate above, lateral pistillate, upper sessile, the lower pedunculate; *lowest bract* leaf-like, sheathless or nearly so, dark-auricled, the upper reduced; *scales* rough-cuspidate, purplish-black, centre lighter, 1 to 3-nerved, midrib excurrent, margins white-hyaline, as long as the perigynia or longer, *perigynia* 10-30, dark, ovate 4-5 mm long, appressed-ascending, plano-convex, puncticulate, finely nerved dorsally, stipitate, abruptly contracted into a short, emarginate beak; *achenes* about 2 mm long, triangular, loosely enveloped, yellowish-brown, substipitate, jointed with the style; *stigmas* 3.

Saline shores and rocky bluffs; Alaska to British Columbia, Asiatic Coast; a northern coastal species in British Columbia, found as far south as northern Vancouver Island.

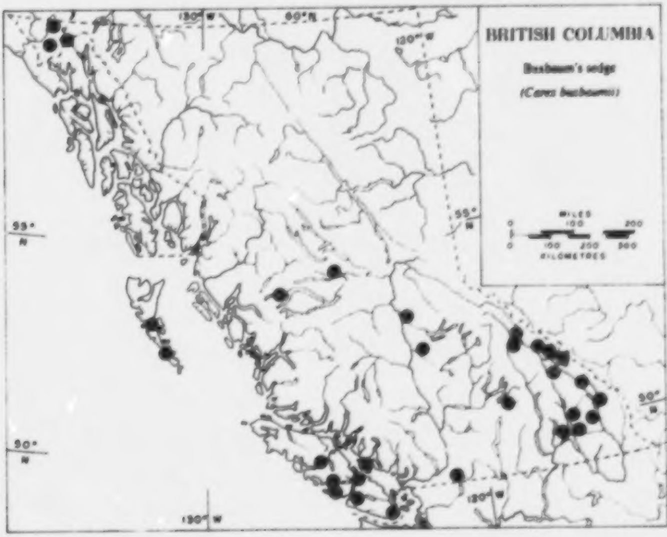


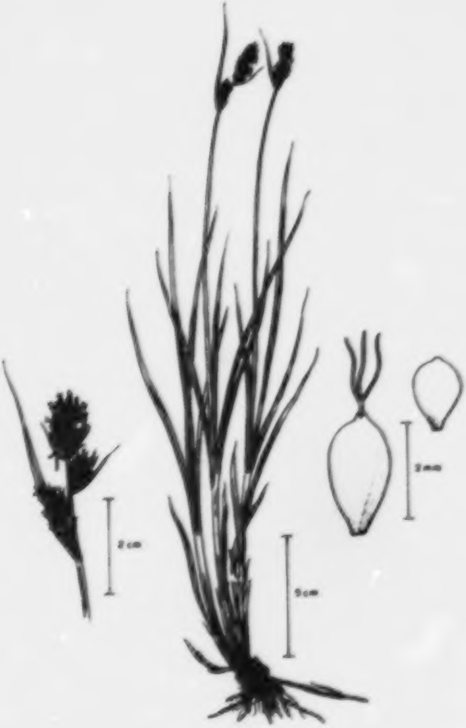


Gmelin's sedge *(Carex gmelinii)*

104. *Carex buxbaumii* Wahl. **Buxbaum's sedge**

Loosely caespitose, from scaly, long, slender, horizontal stolons. *Culms* up to 10 dm tall, erect, very slender, papillose, strongly reddish-tinged at the base, not surrounded by the old leaf-sheaths of the previous year, basal sheaths filamentose. *Leaves* 2-4, on the lower half but not clustered, erect, more or less glaucous, flat with revolute margins, channeled toward the base, 1.5-4.0 mm wide, long-attenuate. *Spikes* 2-5, approximate or the lower more or less separated, the terminal short-peduncled, pistillate above, oblong-ovoid, the basal staminate part short, lateral spikes pistillate, sessile or nearly so, ovoid or oblong-ovoid, 5-20 mm long, densely flowered, perigynia ascending; *bracts* sheathless, scale-like, dark-auricled; *scales* lanceolate, much narrower and usually longer than the perigynia, long-acuminate or aristate, reddish-black or reddish-brown with a light midvein prominent to the apex; *perigynia* elliptic or obovoid, triangular-biconvex, 2.5-4.0 mm long, glaucous-green, densely papillose, subcoriaceous, 2-ribbed, finely many-nerved, short stipitate, rounded at the apex, very minutely beaked, beak reddish-





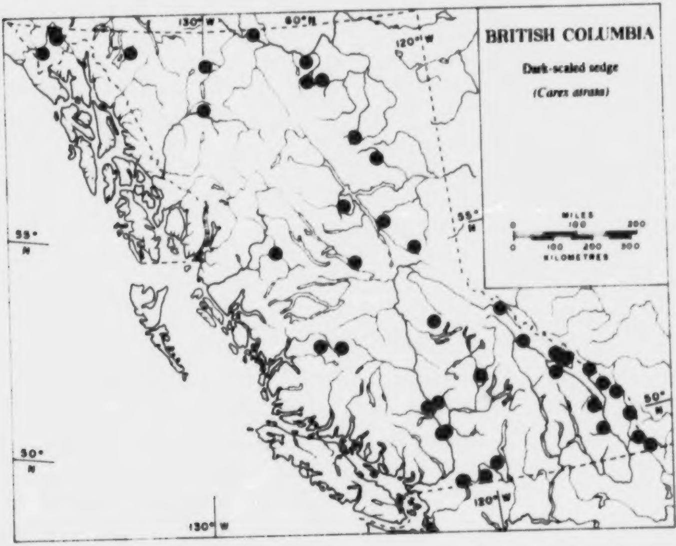
Buxbaum's sedge *(Carex buxbaumii)*

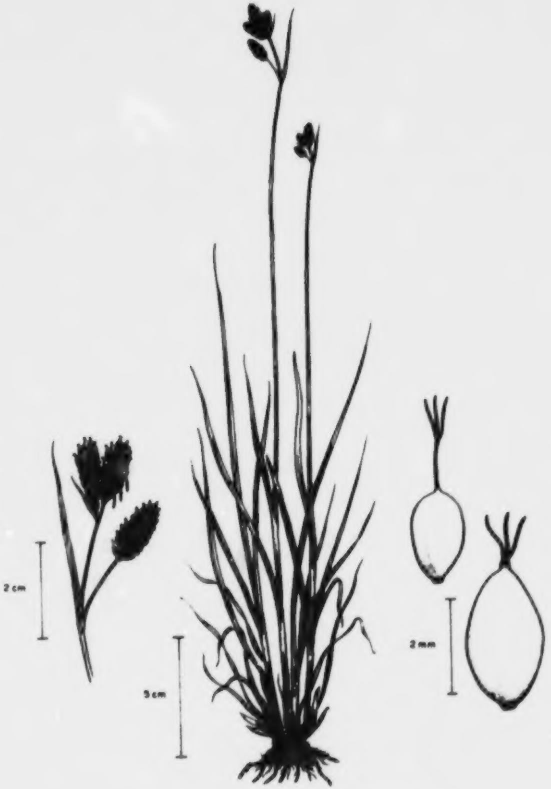
tinged; *achenes* suborbicular-obovoid, trigonous, brownish, punctate, short-tapering at the base, short-apiculate; *stigmas* 3.

Sunny swamps and wet meadows at middle elevations; Alaska to Newfoundland, south to California, Utah, Colorado, Arkansas and Georgia; Eurasia; general in British Columbia where conditions are suitable.

105. *Carex atrata* L. **Dark-scaled sedge**

Densely caespitose, rootstocks very short, slender. *Culms* up to 15 dm tall, slender, erect, or nodding at maturity, much exceeding the leaves, dark-tinged at the base, lower sheaths sparingly filamentose, dried leaves of the previous year conspicuous. *Leaves* 7-10, clustered near the base, flat, margins slightly revolute, 1.5-3.5 mm wide, attenuate, sheaths whitish or yellowish-white ventrally. *Spikes* 3-4, the lateral pistillate, the terminal pistillate above, clavate at the base, the lower 1 or 2 on erect peduncles half to twice their own length, the other sessile or subsessile, spikes oblong, 6-20 mm long, perigynia appressed; *lowest bract* leaf-like, little if at all sheathing, shorter than or exceeding the inflorescence; *scales* broadly ovate, obtuse or somewhat acute, black, midvein obsolete or nearly so, upper margins little, if at all, hyaline, nearly as wide as, but shorter than, the perigynia; *perigynia* narrowly elliptic-obovoid, 3.25 mm long, nerveless, granular-roughened above, olive-green, becoming yellowish-brown, often somewhat red-spotted, suborbicular, little flattened at maturity, glabrous, round-tapering at the base, abruptly contracted into a minute, shallowly bidentate beak; *achenes* obovoid, tri-





Dark-scaled sedge *(Carex atrata)*

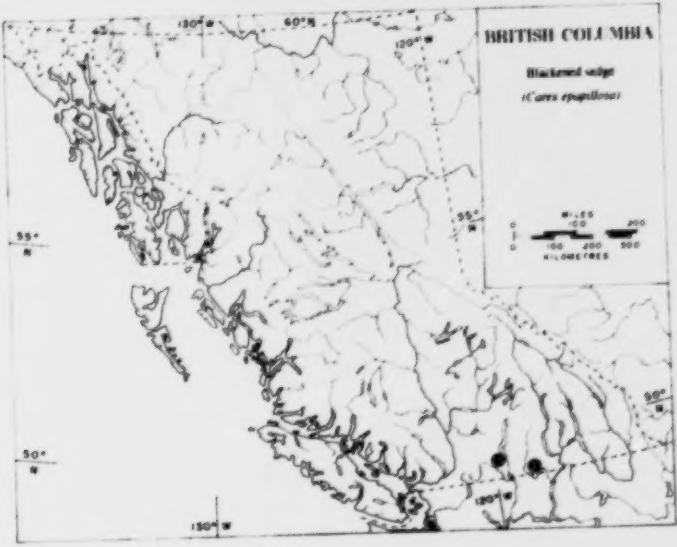
gonous, stipitate, dull yellowish-brown; *stigmas* 3. (*C. atrosquama* Mack.)

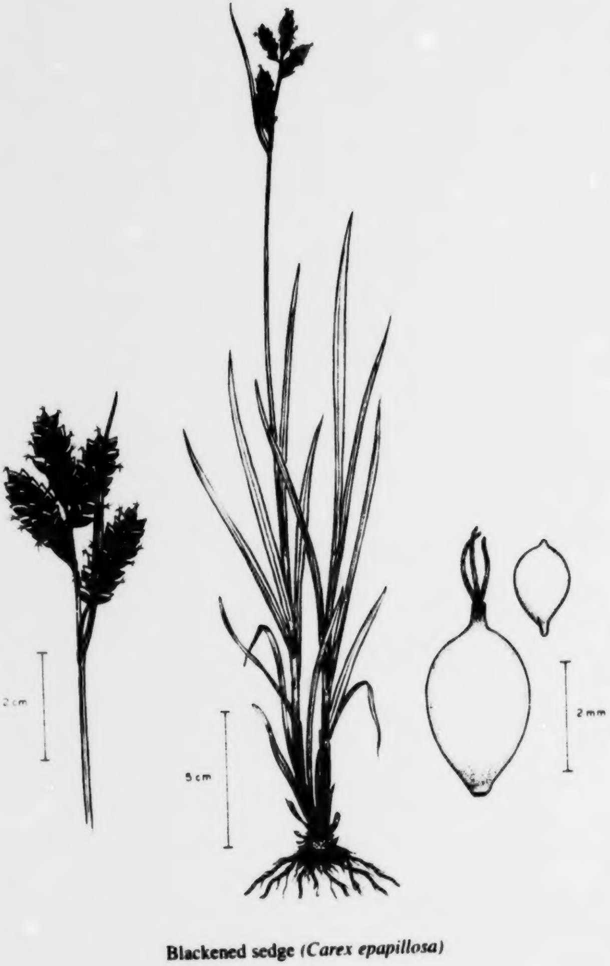
Mountain meadows and alpine slopes; British Columbia and Alberta southward to Oregon, Idaho, Colorado and western Montana; general throughout the interior of British Columbia.

106. *Carex epapillosa* Mack. Blackened sedge

Caespitose. *Culms* erect to drooping at maturity, up to 6 dm tall, longer than the leaves, smooth. *Leaves* basal, erect, 3-6 mm wide, apices attenuate. *Spikes* 4-6, the terminal pistillate above, the lateral pistillate, oblong, short-pedunculate, approximate, separate and spreading, lowermost sometimes long-pedunculate; *lowest bract* short-sheathing, leaf-like, shorter to longer than the inflorescence; *pistillate scales* lanceolate, dark red, midrib conspicuous, narrower than and shorter or longer than the perigynia, apices acute to acuminate; *perigynia* 3.5 mm long, orbicular to broadly obovate, light- to reddish-brown, upper margins light yellow-green, abruptly beaked, beaks red, deeply bidentate; *achenes* 1.5 mm long, trigonous as a rule, dull yellowish-brown; *stigmas* 3.

Mountain meadows, edges of mountain lakes; southern British Columbia to Alberta, south to California, Nevada and Colorado; very rare with us in south-central British Columbia.

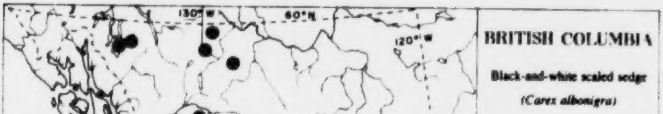

BRITISH COLUMBIA
Blackened sedge
(Carex epapillosa)
MILES
0 100 200
0 100 200 300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W

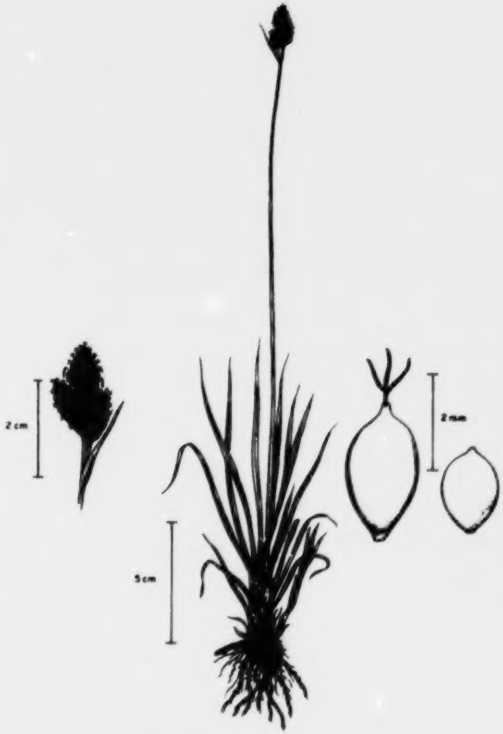


Blackened sedge *(Carex epapillosa)*

107. *Carex albonigra* Mack. Black-and-white scaled sedge

Caespitose, rootstocks short, slender. *Culms* 1-3 dm tall, stiff, erect, much exceeding the leaves, red-tinged toward the base, dried leaves of the previous year conspicuous. *Leaves* 6-12 to a culm, clustered near the base, firm, less than 10 cm long, flat with slightly revolute margins, 2.5-5.0 mm wide, roughened toward the strongly attenuate apex. *Spikes* usually 2-4, the upper approximate, sessile, pistillate above, clavate at the base, larger than the others, the lowest usually slightly separate on an erect peduncle shorter than the spike, the lateral pistillate, narrowly oblong, 8-10 mm long, about half as wide, perigynia appressed; lowest *bract* leaf-like, about equalling or shorter than the inflorescence, brownish-red-tinged and short sheathing at the base, the others scale-like; *scales* broadly ovate, reddish-black, rough-papillose, conspicuously white-hyaline at the apex and on the margins, nearly equalling and about the width of the perigynia; *perigynia* much flattened, broadly ovate or obovate, about 3 mm long, nerveless (except for the 2 marginal ribs) or nearly so, membranous, granular, reddish-black, rounded at the base, rounded at the apex and very abruptly contracted into a minute, apicu-





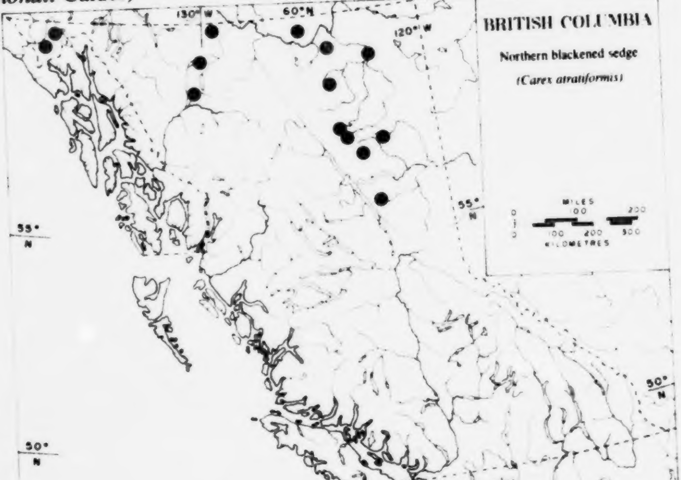
Black-and-white scaled sedge *(Carex albonigra)*

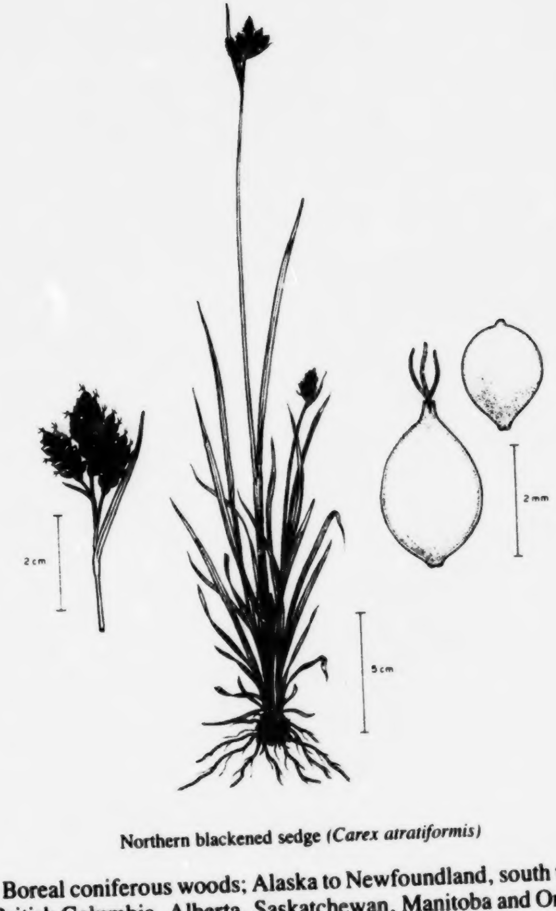
late, shallowly dentate beak; *achenes* obovoid, trigonous, granular, light yellowish-brown, apiculate; *stigmas* 3.

Dry, open, usually alpine slopes; British Columbia to Alberta, south to Washington, and Arizona; generally distributed mainly east of the coast mountains in British Columbia.

108. *Carex atratiformis* Britton Northern blackened sedge

Caespitose; rootstocks short, stout. *Culms* slender, up to 7 dm tall-,much longer than the leaves, sharply triangular. *Leaves* glaucous-green, flat with revolute margins, erect-ascending; sheaths white-hyaline ventrally, sometimes spotted, lower leaves reduced, purplish-black to light brownish-purple. *Spikes* usually 3-5, close together, the upper pistillate above (sometimes throughout), the lower somewhat curved on slender peduncles, the upper more erect on shorter peduncles; *lowest bract* leaf-like, usually shorter than the inflorescence, very short sheating, upper bracts much reduced; *scales* narrowly ovate, acute to somewhat acuminate, occasionally longer than the perigynia but usually shorter, shiny, light to dark purplish-red, margins and midrib varying from obsolete to broadly hyaline; *perigynia* appressed-ascending, 2.5-3.5 mm long × 1.5-2.2 mm wide, short-ovoid to suborbicular, 2-ribbed, nerveless, granular, puncticulate, pale greenish-chestnut to chestnut brown; beak short, hyaline at the tip, often dark tinged below, bidentate; *achenes* about 1.4 mm long, granular, light brown; *stigmas* 3. (including *C. raymondii* Calder)


BRITISH COLUMBIA
Northern blackened sedge
(Carex atratiformis)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W

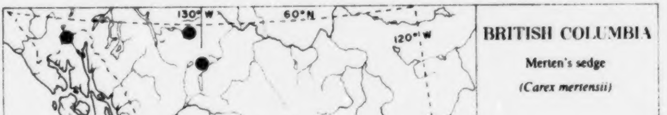


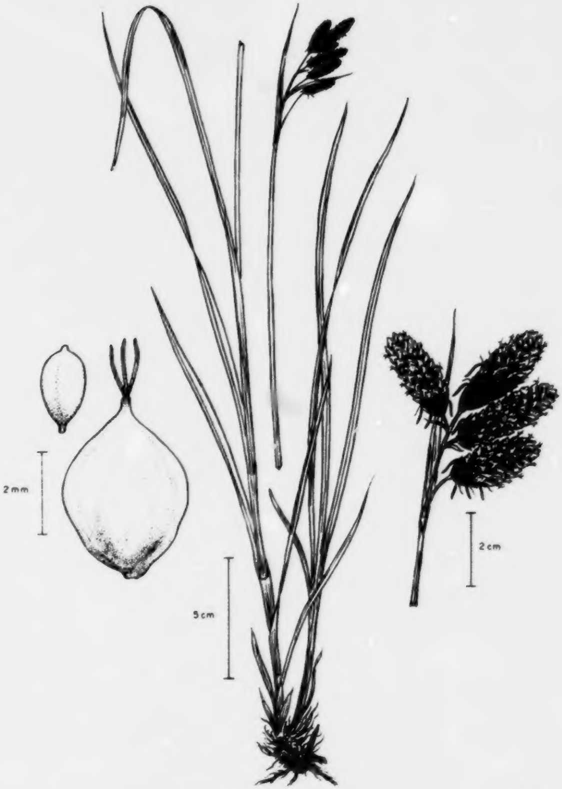
Northern blackened sedge *(Carex atratiformis)*

Boreal coniferous woods; Alaska to Newfoundland, south to northern British Columbia, Alberta, Saskatchewan, Manitoba and Ontario; in British Columbia, limited to the extreme north.

109. *Carex mertensii* Prescott **Merten's sedge**

Densely caespitose, rootstocks veryshort, stout. *Culms* up to 10 dm tall, erect, usually much exceeding the leaves, sharply triangular and narrowly winged, very rough on the angles. *Leaves* 3-6 on a culm, on the lower half, 4-7 mm wide, rather flat with slightly revolute margins, rough toward the attenuate tip, sheaths rather loose, brown-tinged. *Spikes* 5-10, the terminal varying from staminate below to nearly all staminate, approximate, drooping on slender peduncles, cylindric, up to 4 cm long, lateral pistillate with a few staminate flowers at the base, the numerous perigynia appressed-ascending; *lower 2-3 bracts* leaf-like, sheathless or nearly so, exceeding the inflorescence, the upper much reduced; *pistillate scales* ovate-lanceolate, acute or mucronate, dark reddish-brown with conspicuous, lighter-coloured, nerved centre, margins very narrow, hyaline, much narrower and shorter than the perigynia, nearly concealed by them; *perigynia* numerous, appressed-ascending, broadly ovate or obovate, about 5 mm long, very thin and flattened except where distended over the achene, glabrous, papery, pale, red-spotted with fine nerves and 2 marginal ribs, rounded at the base, short-taper-





Merten's sedge *(Carex mertensii)*

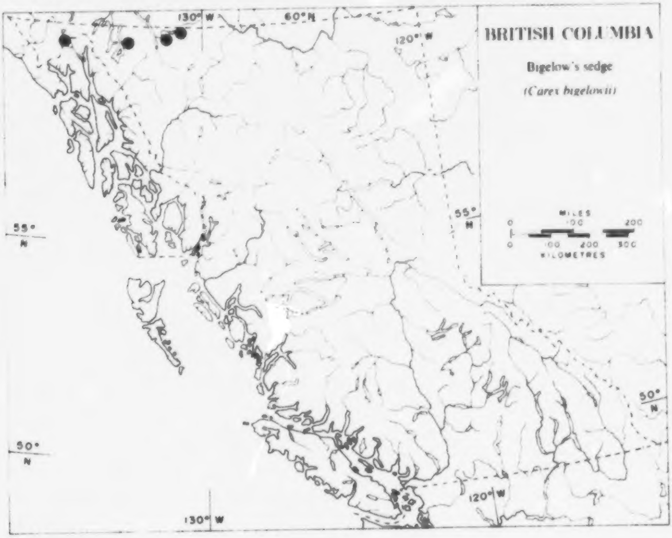
ing at the apex, beak very small, slender, reddish-tipped, entire or emarginate; *achenes* small, oblong-obovoid, trigonous, silvery-brown, strongly stipitate, apiculate; *stigmas* 3.

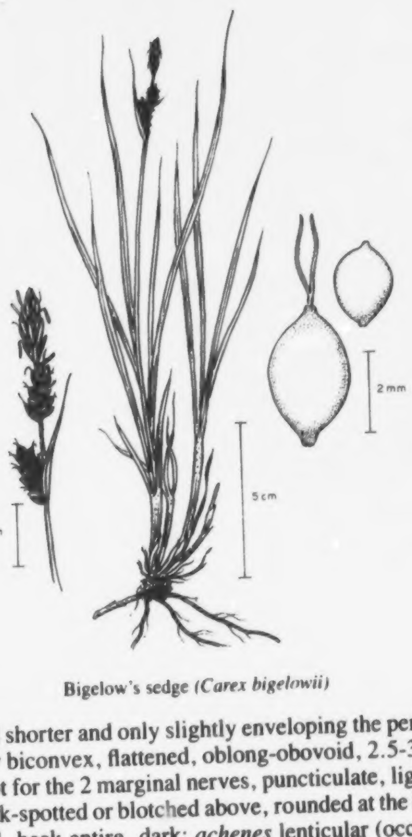
Wet places from low levels to high in the mountains but not alpine; southern Alaska and Yukon, south to northwestern California, north and central Idaho and western Montana; general throughout British Columbia.

43. ACUTAE

110. ***Carex bigelowii*** **Torrey** **Bigelow's sedge**

Markedly stoloniferous, rhizomes stout, shiny, horizontal or ascending. *Culms* arising singly or a few together, up to 4 dm tall, usually exceeding the leaves, stout, stiffly erect, sharply triangular, brownish-red-tinged at the base, old leaves very conspicuous. *Leaves* numerous, clustered near the base of the culm, 3-5 being of the current year, light-green, sparingly septate-modulose, rather thick, 2-6 mm wide, flat, margins revolute, short-tapering. *Terminal spike* staminate, usually strhongly peduncled, up to 25 mm long; *pistillate spikes* 1-6 (commonly 2-3), thick, approximate or the lowest more or less separated, erect, the upper sessile or nearly so, the lower short-peduncled, the upper often staminate above, perigynia appressed; *lowest bract* leaf-like, shorter than the inflorescence, sheathless, dark-auricled, the others scale-like; *scales* oblong-obovate, 3-4 mm long, strongly puncticulate, blackish, midvein lighter, margins narrowly hyaline, generally very obtuse, sometimes somewhat mucronate, usually completely concealing the perigynia, rare-


BRITISH COLUMBIA
Bigelow's sedge
(Carex bigelowii)
MILES
0 100 200
0 100 200 300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
130° W
120° W



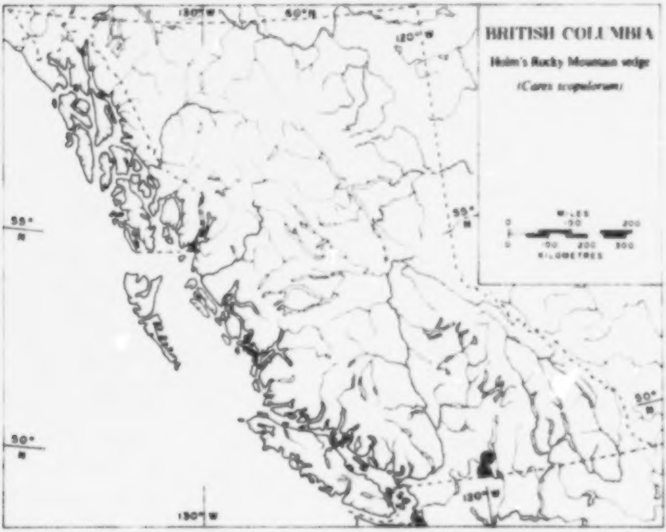
Bigelow's sedge *(Carex bigelowii)*

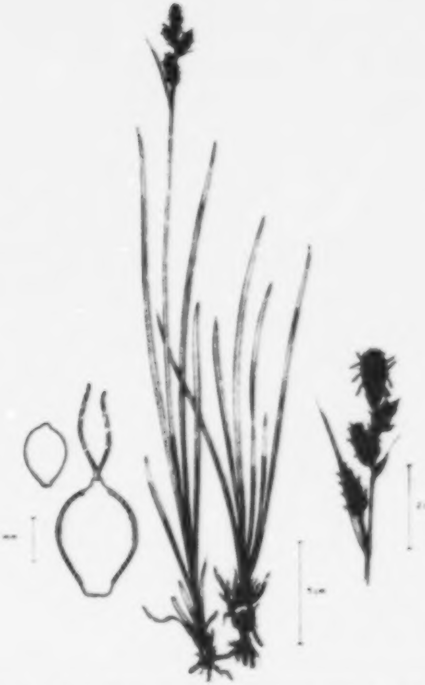
ly narrower and shorter and only slightly enveloping the perigynia; *perigynia* unequally biconvex, flattened, oblong-obovoid, 2.5-3.5 mm long, nerveless except for the 2 marginal nerves, puncticulate, light-green, often strongly dark-spotted or blotched above, rounded at the base, abruptly short-beaked, beak entire, dark; *achenes* lenticular (occasionally trigonous), light-brown, slightly apiculate; *stigmas* 2, or sometimes 3.

Exposed arctic-alpine situations; Alaska to Greenland, south to British Columbia, Idaho, Wyoming, Colorado, Utah, northern New York and New Hampshire; arctic Eurasia; in British Columbia collected only in the extreme northwest.

111. *Carex scopulorum* Holm **Holm's Rocky Mountain sedge**

Strongly stoloniferous, rhizomes stout, ascending or horizontal. *Culms* singly or few together, up to 6 dm tall, stiffly erect, much exceeding the leaves, dull reddish-brown-tinged at the base, dried leaves of the previous year conspicuous. *Leaves* 3-6 of the present year to a culm, clustered on its lower fourth, septate-nodulose, up to 7 mm wide, flat with revolute margins, tapering, sharp-tipped, sheaths short-hispidulous dorsally. *Terminal spike* staminate, sessile or more or less peduncled, linear-clavate, 1-3 cm long; *lateral spikes* 2-6, pistillate or the upper staminate above, approximate or somewhat separate, erect, sessile or short-peduncled, oblong to cylindric, up to 25 mm long, closely 8-50 flowered, perigynia appressed-ascending; *lowest bract* scale-like, not sheathing, black-auricled, much shorter than the inflorescence, the others much reduced; *scales* ovate, black midvein pale (often nearly obsolete), margins slightly hyaline, narrower than and from shorter than to exceeding the perigynia; *perigynia* flattened-biconvex or plano-convex, broadly obovate to suborgicular, not inflated, 2.5-3.5 mm long, nerveless except for the 2 marginal ribs, granular, pale, round-tapering to the substipitate





Holm's Rocky Mountain sedge (*Carex scopulorum*)

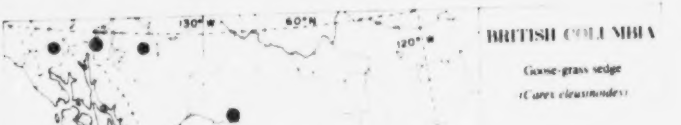
base, reddish-black at the apex, not or very sparingly serrulate above, rounded and abruptly apiculate at the apex, beak very short, entire, reddish-black; *achenes* lenticular, brownish, abruptly apiculate, broadly obovate; *stigmas* 2. (*C. campylocarpa* Holm, *C. gymnoclada* Holm, *C. miserabilis* Mack.)

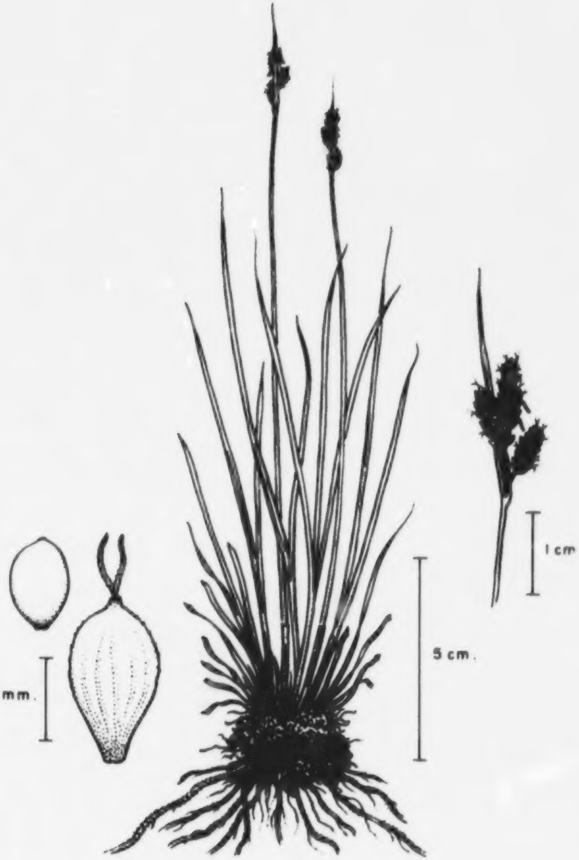
Wet situations generally at middle to high elevations; British Columbia and Alberta, southward through the mountains to California, Nevada, Utah and Colorado; rare in British Columbia, found only in the interior of the province.

112. *Carex eleusinoides* Turcz. **Goose-grass sedge**

Loosely caespitose, rhizomes elongated. *Culms* up to 25 cm tall, taller than the leaves, stiff, glabrous, with bladeless, brownish sheaths at base. *Leaves* 1.5-2.00 mm wide. *Spikes* 3-5, somewhat congested, oblong, the terminal pistillate above, the lateral pistillate, long-peduncled; *lowest bract* leaf-like, longer than the inflorescence, sheathless; *scales* ovate, obtuse to somewhat acute, purplish-black without hyaline margins, centre conspicuously green; *perigynia* ovate, 2.3-3.5 mm long and slightly broader than the scales, nerved, sparsely ciliate on the margins, beak very short, slightly bidentate; *stigmas* 2. (*C. enanderi* Hult.)

Boggy gravelly areas on the margins of pools and ponds in alpine and subalpine regions; Alaska south to British Columbia and Alberta; rare and local in British Columbia.

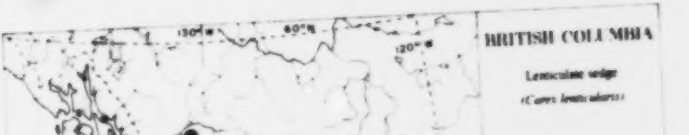


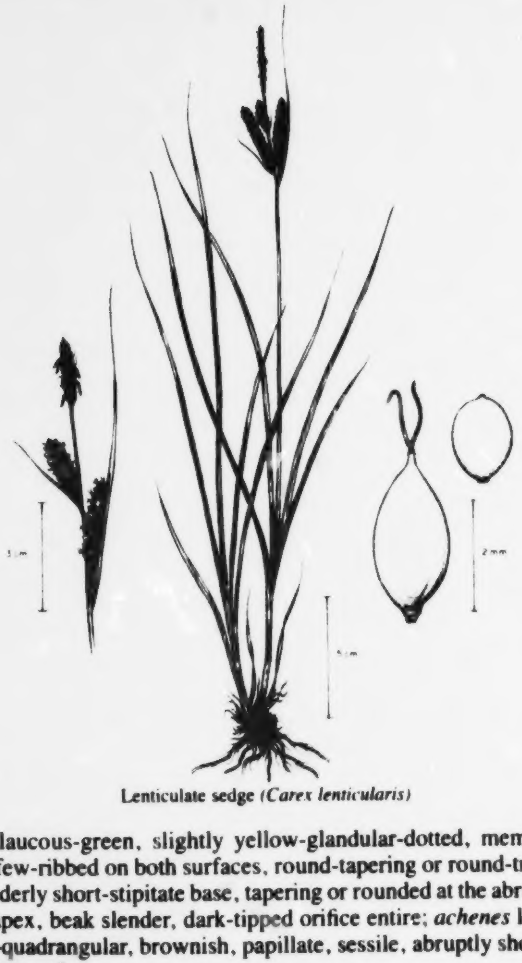


Goose-grass sedge (*Carex eleusinoides*)

113. *Carex lenticularis* Michx. **Lenticulate sedge**

Densely caespitose in large clumps, rootstocks very short. *Culms* up to 6 dm tall, slender, papillose, usually shorter than, but sometimes exceeding the leaves, brownish at the base, leaves of the previous year not very conspicuous. *Leaves* 4-9 to a culm, clustered on the lower one-third, erect, thin, flat above, plicate at the base, long-attenuate, 1-2 mm wide, sheaths yellowish-brown-dotted ventrally. *Staminate spike* solitary, (sometimes with a few perigynia), from little to strongly-pedunculate, linear, 8-30 mm long; *pistillate spikes* 3-5, erect, the upper sessile, contiguous, the lower mostly short-peduncled, usually well separated, elongate-linear, 1.5-4.5 cm long, closely flowered above, often attenuate at the base, perigynia numerous, ascending; *lowest bract* leaf-like, erect, short-sheathing, much exceeding the inflorescence, the upper shorter, auriculae; *scales* obtuse, suborbicular-ovate to oblong-ovate, small, narrower and usually shorter than the perigynia, dark-reddish or brownish-red-tinged, with a broad, 3-nerved centre not extended to the apex, margins hyaline especially toward the apex; *perigynia* early deciduous, obovate, ascending, rather flat, biconvex and sharply 2-edged, 2-3 mm





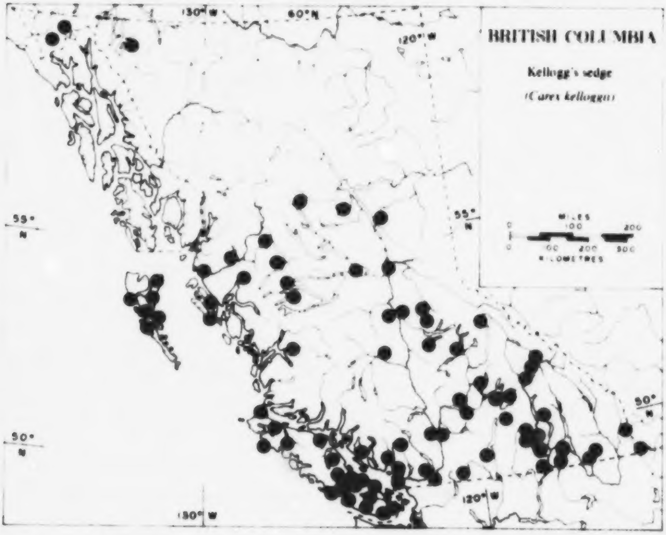
Lenticulate sedge *(Carex lenticularis)*

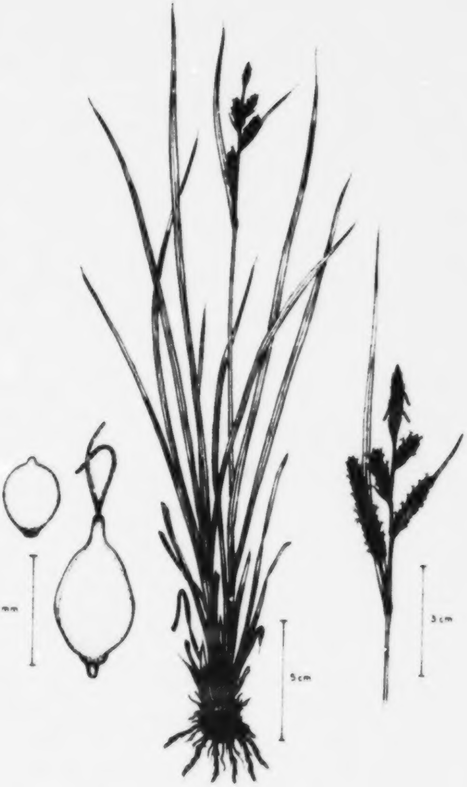
long, glaucous-green, slightly yellow-glandular-dotted, membranous, lightly few-ribbed on both surfaces, round-tapering or round-truncate at the slenderly short-stipitate base, tapering or rounded at the abruptly apiculate apex, beak slender, dark-tipped orifice entire; *achenes* lenticular, oblong-quadrangular, brownish, papillate, sessile, abruptly short-apiculate; *stigmas* 2.

River and lakeshores at mid-altitudes; British Columbia to Newfoundland, southward to Idaho, Montana, Minnesota and Massachusetts; scattered throughout British Columbia but commonest in the south.

114. *Carex kelloggii* Boott **Kellogg's sedge**

Caespitose, rootstocks mostly short so forming clumps. *Culms* up to 6 dm tall, usually shorter than, but sometimes exceeding, the leaves, papillose, roughened above, brownish and fibrillose at the base, old leaves conspicuous. *Leaves* 5-10 to a culm, more or less clustered on the lower third, 1.5-2.5 mm wide, flat above, channeled below, long-attenuate, the sheaths ventrally yellowish-bronw-dotted. *Terminal spikes* 3-5, approximate or slightly separated, erect, the lower short-peduncled, the upper more or less sessile; *lowest bract* sheathless, leaf-like, much exceeding the inflorescnece, the upper reduced; *scales* obtuse or acutish, dark-purplish-brown, margins narrowly hyaline with a broad, lighter, usually 1-nerved centre not extending to the apex, narrower and shorter than to equalling the perigynia; *perigynia* numerous, early deciduous, appressed-ascending, ovate, flattened-biconvex, sharply 2-edged, 1.5-3.9 mm long, light-green, granular, 2-ribbed truncate at the slenderly stipitate base, rounded at the abruptly apiculate-beaked apex, beak very short, entire, usually conspicuously black-tipped; *achenes* lenticular,





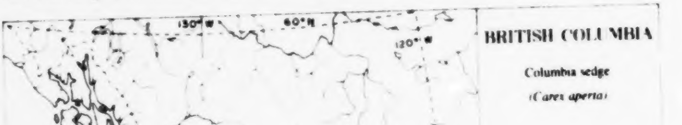
Kellogg's sedge *(Carex kelloggii)*

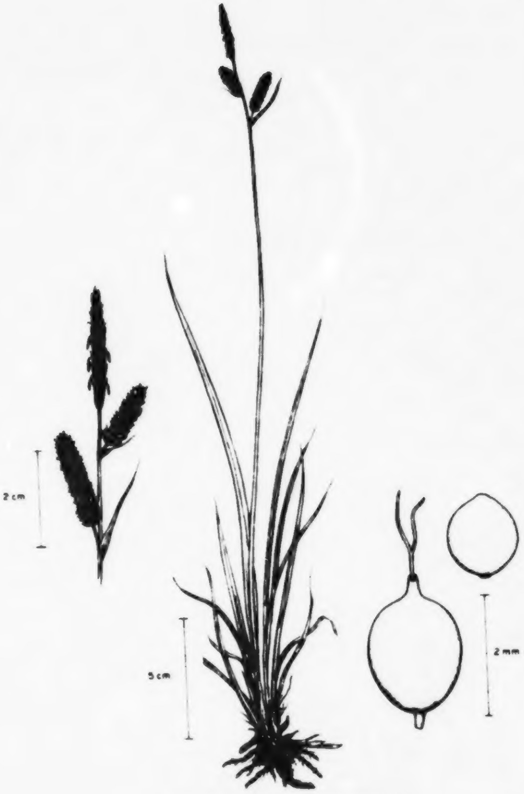
suborbicular, blackish, granular, short-apiculate; *stigmas* 2. (*C. hindsii* Clarke)

Swamps and wet places generally from low to high elevations; Alaska to Alberta, south to California, east to Alberta, Colorado and Arizona; very common throughout British Columbia.

115. *Carex aperta* Boott **Columbia sedge**

Caespitose, rootstocks stout, woody, elongated, *Culms* up to 10 dm tall, slender, stiff, sharply triangular, almost winged, much exceeding the leaves, brownish or somewhat reddish-tinged at the base. *Leaves* 3-5, inserted toward the base, erect, flat with slightly revolted margins, 2-5 mm wide, the upper long, the lower much reduced. *Terminal spike* staminate, peduncled, sometimes with an additional sessile spike at its base, linear 2.0-3.5 cm long; *pistillate spikes* 2 or 3, erect, sometimes staminate at the tip, approximate or somewhat separate, sessile to short-pedunculate, the peduncles shorter than the spikes, spikes oblong to linear, many-flowered, 1-5 cm long, perigynea spreading-ascending; *lowest bract* leaf-like, not sheathing, about equalling the inflorescence, the upper much reduced, dark-auricled; *scales* lanceolate, acuminate or sharply acute, much narrower, usually conspicuously exceeding, or sometimes only equalling, the perigynia, reddish-black, centre lighter, margins obscurely hyaline; *perigynia* obovoid-orbicular, unequally biconvex, inflated at maturity, about 3 mm long, nerveless except for the 2 marginal ribs, olive-green becoming straw-coloured, membranous, rounded base,





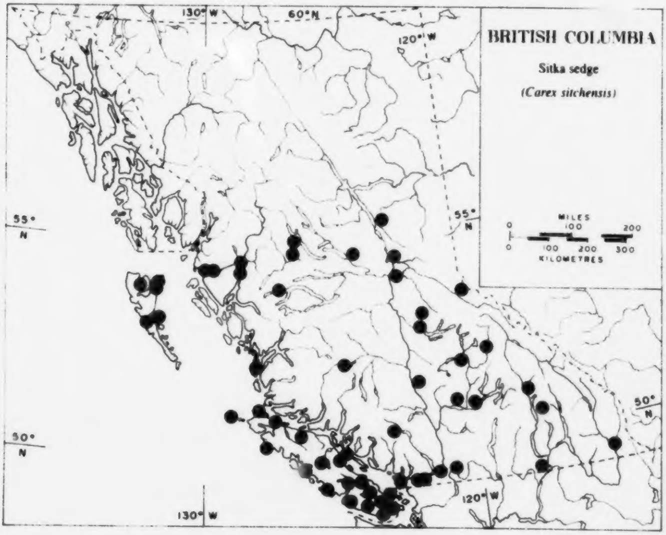
Columbia sedge *(Carex aperta)*

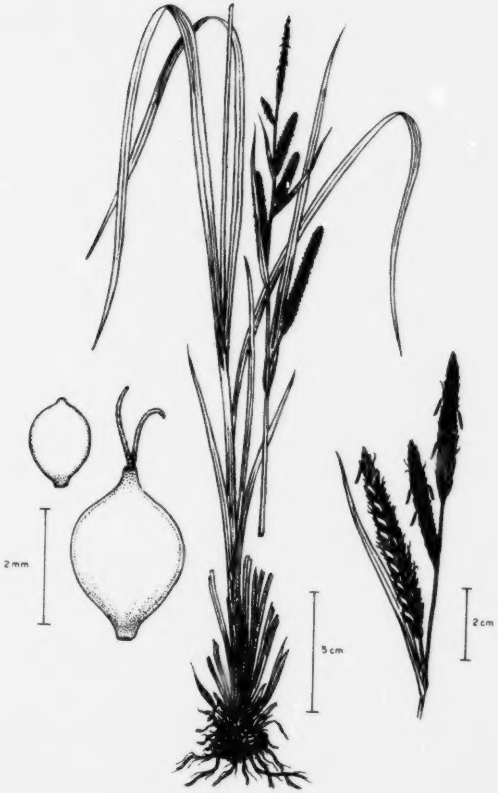
very abruptly contracted into a short, emarginate beak; *achenes* lenticular, suborbicular, yellowish-brown; *stigmas* 2.

Low, swampy ground and along river banks, particulary on flood plains; British Columbia and Alberta, south to Oregon, Idaho and western Montana; in British Columbia, general south from about latitude 55° N.

116. *Carex sitchensis* Prescott **Sitka sedge**

Caespitose, rootstocks short, creeping. *Culms* up to 12 dm tall, acutely triangular, papillate, reddish-brown at base, old leaves conspicuous. *Leaves* 4-6 to a culm, from near the base, blades 3-5 dm x 3-9 mm, flat with revolute margins, sometimes channeled towards the base, thinnish, septate-nodulose, rough on the margins above, sheaths rounded, hispidulous dorsally, dark-tinged at the mouth. *Terminal 1-4 spikes* staminate, 2-8 cm long, *lower 3-5 spikes* pistillate or staminate above, about the same length, erect or drooping on rough slender peduncles; *bracts* leaf-like, sheathless; *scales* obtuse or acute, purplish-black or light-brown with white-hyaline tip, the staminate with white midvein and hyaline margins, the pistillate with lighter 1- to 3-nerved centre; *perigynia* very numerous, 2.5-3.5 mm long, appressed flattened plano-convex, membranous, light-greenish or straw-coloured, minutely granular, yellow glandular, 2-ribbed, sharp-edged, beak short, entire, dark-tipped; *achenes* about 2 mm long, lenticular, loosely enveloped, brownish, short-apiculate, jointed with the style; *stigmas* 2. *(C. barbarea* Dewey, J. Macoun & J.K. Henry)



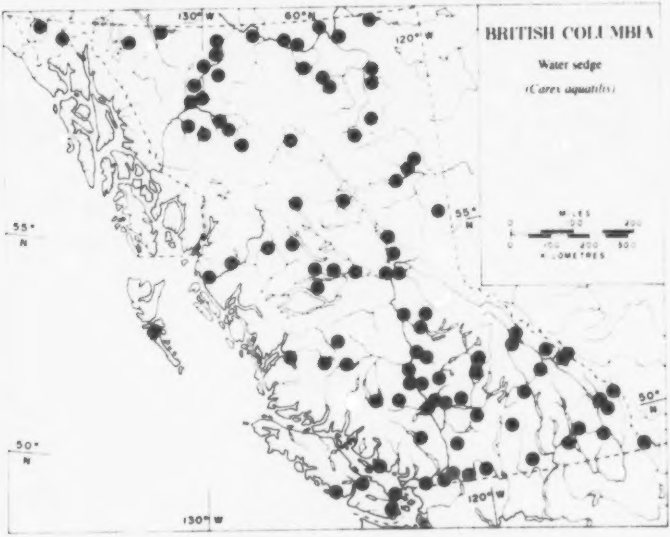


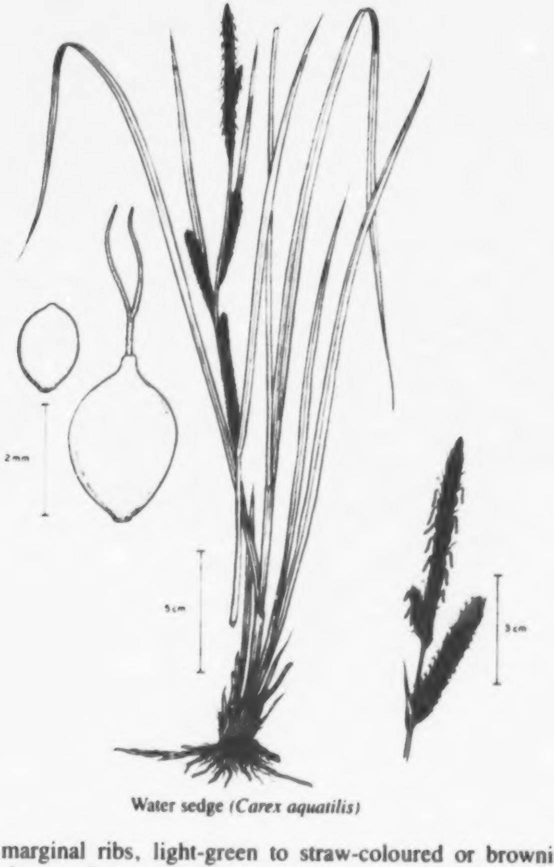
Sitka sedge *(Carex sitchensis)*

Swamp, wet meadows, lake shores, etc.; Alaska to California, east to northern Idaho; common along the coast of British Columbia and inland to the Rocky Mountains south of Lat. 55° N.

117. *Carex aquatilis* Wahl. **Water sedge**

Caespitose, often in large clumps, rhizomes horizontal, cord-like, scaly. *Culms* erect, usually slender, up to 10 dm tall, triangular, mostly exceeding the leaves, phyllopodic, reddish-tinged at the base, dried leaves of the previous year conspicuous. *Leaves* numerous, on the lower third of the culm, as long as or shorter than the culm, flat or channelled at the base, light- or glaucous-green, long-tapering, up to 8 mm wide. *Staminate spikes* 1-3, linear, the upper peduncled, 1.3 cm long, the others sessile or nearly so, shorter, sometimes pistillate at the base; *pistillate spikes* 2-6, the upper staminate at the top, the lowest often strongly separate and occasionally on long peduncles arising from near the base of the plant, the upper more or less approximate and sessile to short-peduncled, erect, linear to oblong, up to 4 cm long, many flowered, perigynia appressed-ascending; *lowest bract* leaf-like, sheathless, normally exceeding the culm, the upper reduced; *scales* ovate to oblong-ovate, obtuse, normally much narrower and shorter than the perigynia, blackish, midrib lighter, margins narrowly hyaline; *perigynia* 2.0-3.3 mm long, unequally biconvex, strongly flattened, nerveless or obscurely few-nerved except





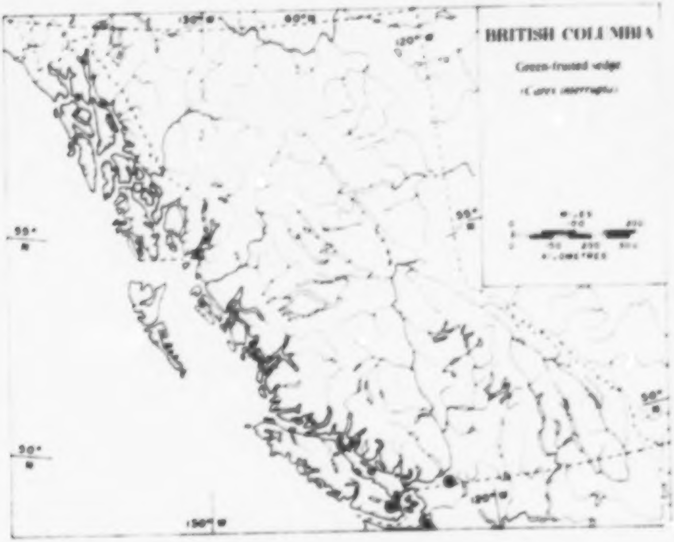
Water sedge (*Carex aquatilis*)

for the 2 marginal ribs, light-green to straw-coloured or brownish, rounded at base and apex, abruptly apiculate, the beat entire; *achenes* lenticular, broadly obovoid, yellowish, abruptly short-apiculate; *stigmas* 2.

Wet soil, shallow water, lakeshores and streambanks; circumboreal, southward to New Jersey, Indiana, New Mexico, Arizona and California; general throughout the interior of British Columbia.

118. *Carex interrupta* Boeck. **Green-fruited sedge**

Loosely tufted, rootstock short. *Culms* up to 7 dm tall, mostly surpassing the leaves, aphyllopodic, old basal rudiments firm, persistent; lower sheaths easily ruptured, not filamentose. *Leaves* flat, 2-5 mm wide, elongate, margins nearly smooth at the base. *Terminal spike* staminate, 1.5-4.0 cm long, sometimes with a shorter staminate spike at its base; *lateral spikes* 2-7, pistillate or the upper androgynous, erect, slender, about 4 mm thick or less, cylindric, the lower ones slender-peduncled, loosely flowered towards the base, 3-8 cm long, the others tending to become progressively shorter and sessile or nearly so; *lowest bract* sheathless, from shorter than to distinctly longer than the inflorescence; *pistillate scales* dark brown to deep purplish or nearly black often with a lighter central stripe, lanceolate or narrowly ovate, equalling or more often surpassing the perigynia; *perigynia* 1.4-2.0 mm long, generally olive-green, broadly obovate to elliptic-ovate, compressed with prominent marginal nerves which sometimes bear a few scabrous points distally, faces nerveless or with 1 or 2 incomplete or irregular nerves.



beak very short; *achenes* lenticular, up to 1.4 mm long, closely enveloped by the perigynium, generally completely filling the perigynial cavity; *stigmas* 2.

Rocky banks and low wet places west of the Cascade Mountains from extreme southern British Columbia south to Oregon; known in British Columbia only from collections at Duncan and Chilliwack.

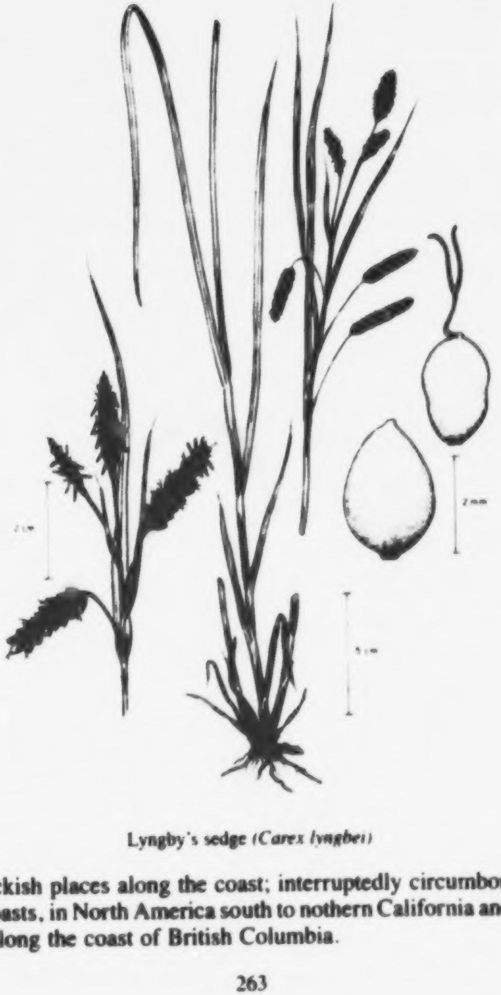
(Not illustrated)

44. CRYPTOCARPAE

119. ***Carex lyngbyei*** **Hornem.** **Lyngby's sedge**

Stoloniferous, stolons long, stout. *Culms* up to 9 dm tall, longer than the leaves, purplish-red or brownish at the base, old leaves conspicuous. *Leaves* 4-8 to a culm, 2 × 12 mm wide, flat, margins revolute, rough, abruptly pointed, basal sheaths not obviously fibrillose. *Upper 2-3 spikes* staminate, lower 2-4 pistillate or staminate above, on slender, spreading or drooping peduncles; *lower bracts* leaf-like, sheathing, slightly exceeding the spikes, the upper reduced; *scales* lanceolate, acuminate or awned, reddish-brown to brownish-black, centre lighter, 3-nerved, margins and often the apex hyaline, much longer than the perigynia; *perigynia* numerous, 2.5-3.5 mm long, appressed-ascending or spreading, ovate, biconvex, greenish or brownish, 2-ribbed, several-nerved on each face, beak very short, whitish; *achenes* lenticular, loosely enveloped, sometimes constricted at the middle; *stigmas* 2. (*C. cryptocarpa* C.A. Meyer)

BRITISH COLUMBIA
Lyngby's sedge
(Carex lyngbyei)
60°
20°
55°
55°
50°
50°
20°
50°

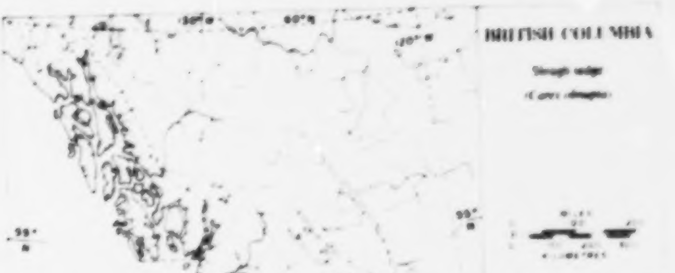


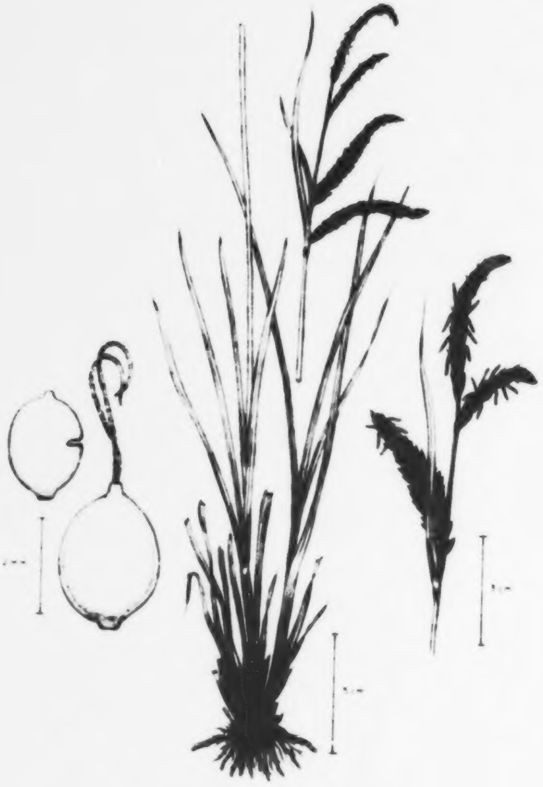
Lyngby's sedge (*Carex lyngbei*)

Brackish places along the coast; interruptedly circumboreal along the sea coasts, in North America south to nothern California and Quebec; general along the coast of British Columbia.

120. *Carex obnupta* L.H. Bailey **Slough sedge**

Densely caespitose, rhizomes long, stout. *Culms* up to 15 dm tall, stiff, purplish at base, lower sheaths filamentose. *Leaves* 2-4 to a culm, more or less basal, blades 1-2 dm × 2.5-5.0 mm, channeled above, keeled towards the base, margins rough, revolute above, firm, coriaceous, sheaths hispidulous, fibrillose. *Upper 1-3 spikes* staminate, 1.5-6.0 cm long, often curving, the *lower 2-4 spikes* pistillate or staminate above, 3-14 cm × 4-10 mm, on short, stiff, erect peduncles, spreading or drooping; *lowest bract* leaf-like, dark-auricled, the upper reduced; *staminate scales* obtuse or mucronate, dark reddish-brown to purplish-black, margins hyaline, midrib paler; *pistillate scales* acute or acuminate, purplish-black, margins hyaline, centre lighter, 3-nerved; *perigynia* numerous, 2.5-3.5 mm long, concealed by the scales, ascending, thickish-biconvex, coriaceous, yellowish-green or brown, shining, 2-ribbed, beak very short, entire or nearly so; *achenes* about 2.25 mm long, lenticular, loosely enveloped, deeply constricted, minutely apiculate, *stigmas* 2.





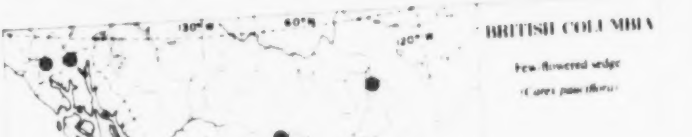
Slough sedge *(Carex obnupta)*

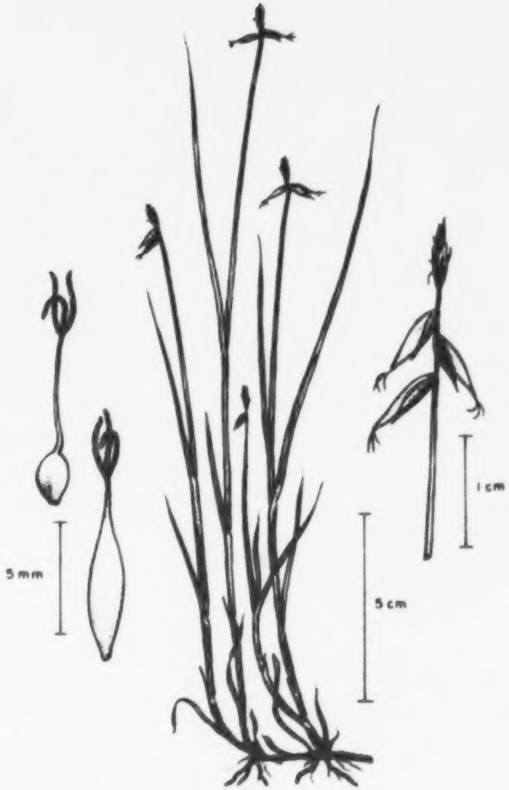
Swampy places, especially along rivers and marshes; British Columbia to California along the coast; in coastal British Columbia, south from about Lat. 54° N.

24. ORTHOCERATES

121. *Carex pauciflora* Lightf. **Few-flowered sedge**

Rootstocks long, slender. *Culms* up to 6 dm tall, arising singly, curved at the base, stiff, rough above, brownish at base. *Leaves* 2-3 to a culm, from the lower half, blades up to 15 cm long, involute or channeled, light-green, roughened. *Spikes* solitary, staminate above; *bractless*; *scales* acutish, the staminate straw-coloured or yellowish-brown, the pistillate light-brown with hyaline margins, light centre, and greenish midvein; *perigynia* very few, usually less than 7, 6-7 mm × 1.0-1.5 mm, soon reflexed, suborbicular, membranous, light-green becoming straw-coloured or yellowish-brown, finely striate, spongy, obliquely short stipitate, beak hyaline-tipped, orifice truncate, entire; *achenes* about 2 mm long, trigonous with the side concave below, convex or flat above, yellowish-brown, obliquely stipitate, continuous with the long straight or bent style; *stigmas* 3.





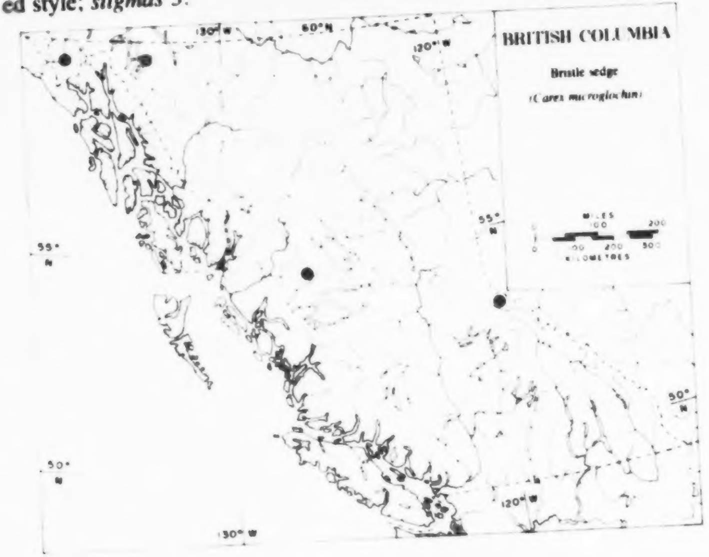
Few-flowered sedge (*Carex pauciflora*)

Sphagnum bogs; circumboreal, in North America southward to northern Washington, Minnesota, Pennsylvania, and New England; general in British Columbia but not common.

46. PSEUDOCYPEREAE

122. *Carex microglochin* Wahl. **Bristle sedge**

Rootstock slender, short-creeping, shoots 1-3. *Culms* up to about 25 cm tall, stiff, erect, taller than the leaves, very smooth, basal sheaths brown. *Leaves* 4-8 to a culm, erect-ascending, about half as tall, involute, about 0.5 mm wide, sheaths tight. *Spike* solitary, few flowered, androgynous; *bractless*; scales somewhat acute to obtuse, the staminate light-chestnut-brown throughout or with light centre and hyaline margins, the pistillate similar, wider and about half as long as the perigynia, early deciduous; *perigynia* 3-12, subulate or linear-lanceolate, 3.0-5.0 mm long, 0.8-1.0 mm wide, soon reflexed, sub-orbicular in cross-section, membranous, light green, brownish-green or straw-coloured, obscurely many-striate, spongy, very obliquely sub-stipitate, orifice of the beak hyaline, obliquely truncate, filled with the projecting, bristle-like rachilla; *achenes* about 2.5 mm long, trigonous, yellowish-brown, abruptly contracted into and continuous with the long slender, not exserted style; *stigmas* 3.


BRITISH COLUMBIA
Bristle sedge
(Carex microglochin)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W

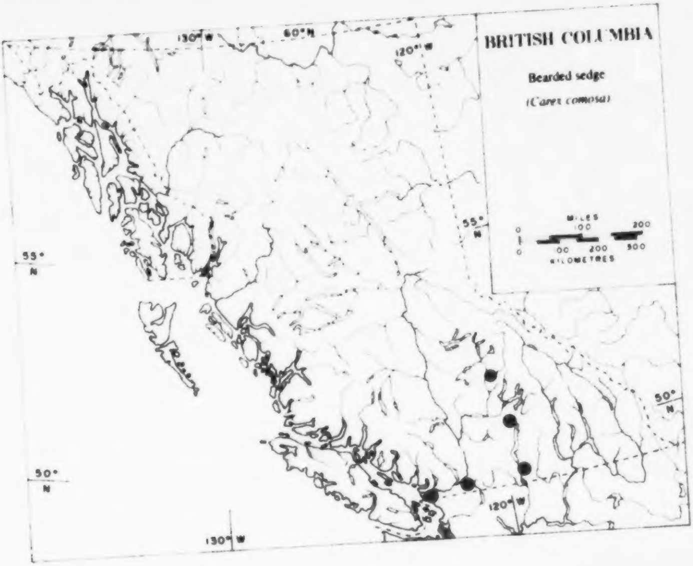
Peaty, often calcareous, soils in the open, arctic-alpine; circumboreal. In North America Alaska to Greenland southward to southern British Columbia, western Montana, Colorada and Quebec. In British Columbia, known from scattered collections in the interior north of 55°.

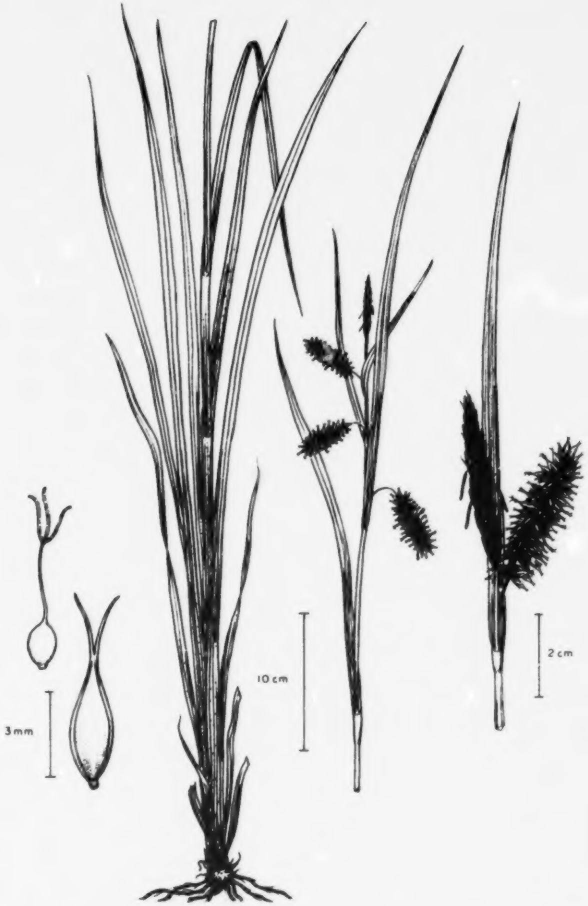
(Not illustrated)

123. *Carex comosa* Boott **Bearded sedge**

Densely caespitose. *Culms* up to 15 dm tall. *Leaves* up to 15 mm wide. *Spikes* 4-7, upper staminate, short-peduncled, scarcely exceeding the upper pistillate spikes; *pistallate spikes* cylindric, 3-7 cm long, mostly approximate, short-peduncled, the lowermost widely spreading or drooping; *bracts* leaf-like, much exceeding the inflorescence; *pistillate scales* with a small hyaline or pale brown body, the midvein extending into a rough awn usually much shorter than the body of the perigynium *perigynia* reflexed at maturity, narrowly ovoid, 5.7-7.7 mm long, stipitate, trigonous, strongly 12-17 nerved, gradually tapering into a long beak with curved divergent teeth about 1.7 mm long; *achenes* trigonous, 1.2-1.8 mm long, continuous with the persistent bony style; *stigmas* 3.

Swamps and wet meadows; Minnesota to Quebec, south to Louisiana and Florida, disjunct in southern British Columbia to northern Idaho, south to Washington and California; rare and scattered in southern British Columbia.

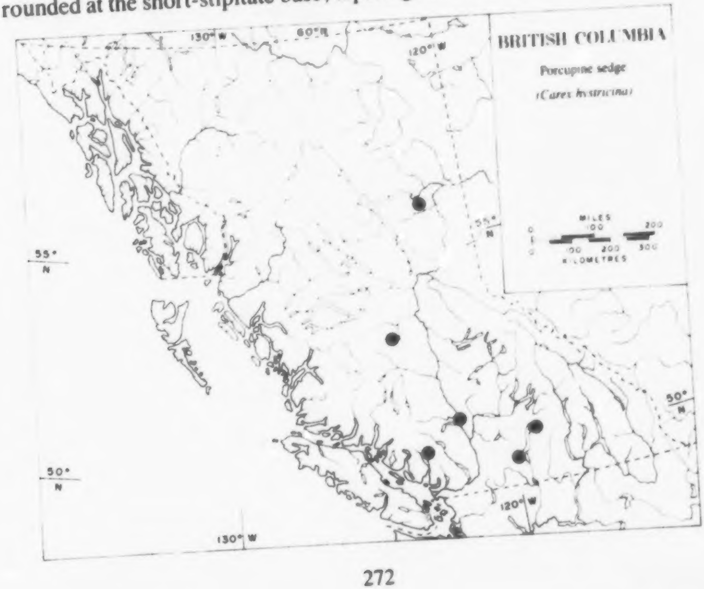


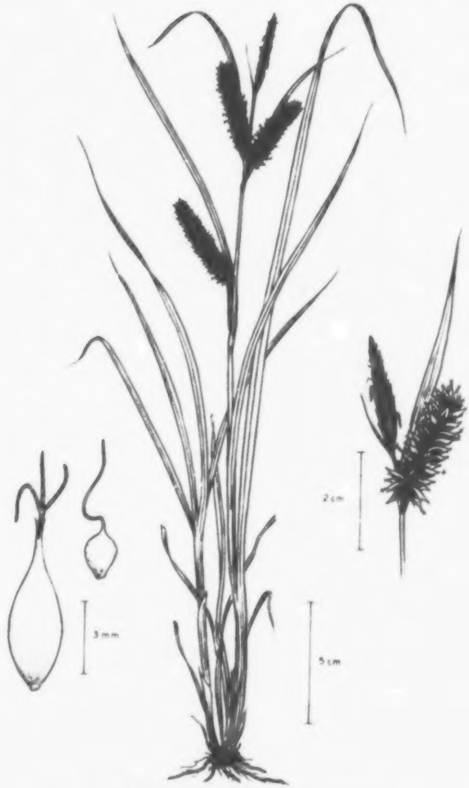

3 mm
10 cm
2 cm

Bearded sedge *(Carex comosa)*

124. *Carex hystricina* Muhl. Porcupine sedge

Caespitose, rootstock short, stout with long, slender rhizomes. *Culms* up to 10 dm tall, exceeded by the bracts and often the upper leaves, reddish at the base, basal sheaths breaking and becoming more or less filamentose. *Leaves* 3-7 to a culm, septate-nodulose, not clustered, thin, flat with slightly revolute margins, 2-10 mm wide. *Staminate spikes* solitary, slender-peduncled, usually with a conspicuous bract some distance below, linear, up to 5 cm long; *pistillate spikes* 1-4, approximate or strongly separate, the lower nodding on long, rough peduncles, the upper erect on short peduncles, spikes oblong or oblong-cylindric, about as long as the staminate spike, densely flowered with numerous spreading perigynia; *bracts* leaf-like, the upper somewhat reduced; *scales* with small obovate or oblanceolate bodies, ciliate-serrulate above, light reddish-brown with a 3-nerved green centre excurrent as a long awn, the bodies much narrower and several times shorter than the perigynia; *perigynia* narrowly ovoid, 5-7 mm long, inflated, membranous, glabrous, shiny, light-green or straw-coloured at maturity, closely many-ribbed, rounded at the short-stipitate base, tapering into a smooth, deeply biden-





Porcupine sedge *(Carex hystricina)*

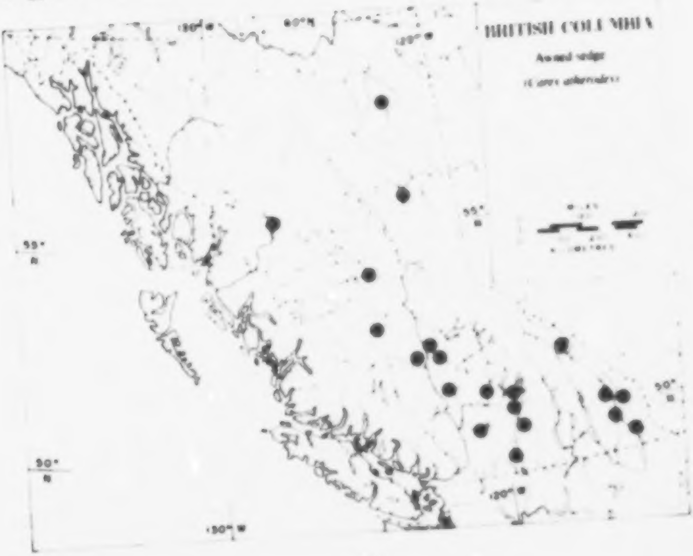
tate, slender beak about 2 mm long, the slender teeth erect, rigid; *achenes* small, obovoid, trigonous, granular, brownish, abruptly contracted above, continuous with the slender style; *stigma* 3.

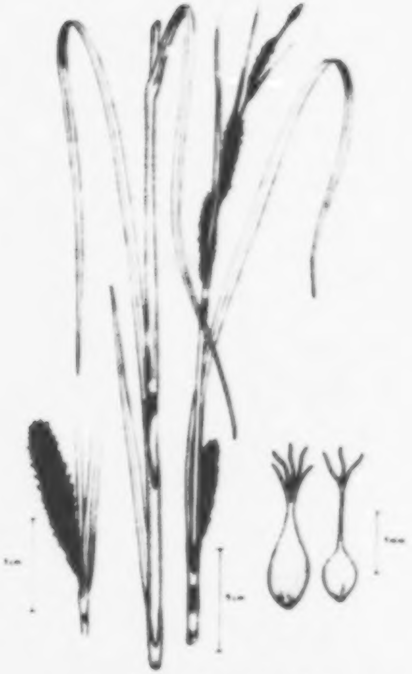
Wet meadows, marhes, streambanks from low to mid-elevations; British Columbia to Quebec, south to California, Arizona, Texas, Kentucky and Virginia; rare in British Columbia, known from the southern part of the province and the Peace Point.

47. PALUDOSAE

125. *Carex atherodes* Spreng. **Awned sedge**

Loosely caespitose, rhizomes long, slender, horizontal. *Culms* up to 15 dm tall, usually stout, sharply triangular, smooth, reddish-tinged at the base, basal sheaths breaking and becoming conspicuously filamentose. *Leaves* few to several to a culm, not clustered at the base, strongly septate-nodulose, thin, flat, 3-12 mm wide, glabrous above, at least the lower sparsely hairy toward the base, long-attenuate, the sheaths long, soft-hairy, breaking and becoming more or less filamentose, deeply concave, brownish- or reddish-tinged at the mouth. *Staminate spikes* 2-6, erect, contiguous, the lower more or less separate, narrowly linear, 4-10 cm long; *pistallate spikes* 2-4, erect, widely separate, short-peduncled or nearly sessile, closely many flowered, the upper often staminate at the apex, perigynia spreading-ascending; *bracts* leaf-like, lowest strongly sheathing, exceeding the culm; *scales* ovate, abruptly rough-aristate, short-ciliate, narrower (the upper shorter and the lower longer) than the perigynia, dull reddish-brown, centre green, 3-nerved, margins hyaline; *perigynia* lanceolate to ovoid-lanceolate, 7-10 mm long, somewhat in-





Awned sedge (*Carex atherodes*)

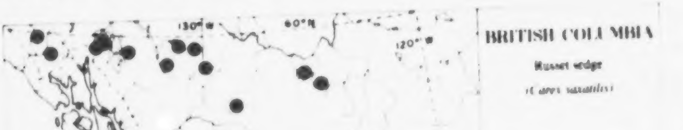
flated, glabrous, yellowish-green or light-brownish, strongly many-ribbed, rounded at base, tapering into a strongly bidentate, smooth beak, about the length of the body, teeth 1.2-3.0 mm long; *achenes* obovoid, trigonous with blunt angles, yellowish-brown, continuous with the straight style; *stigmas* 3.

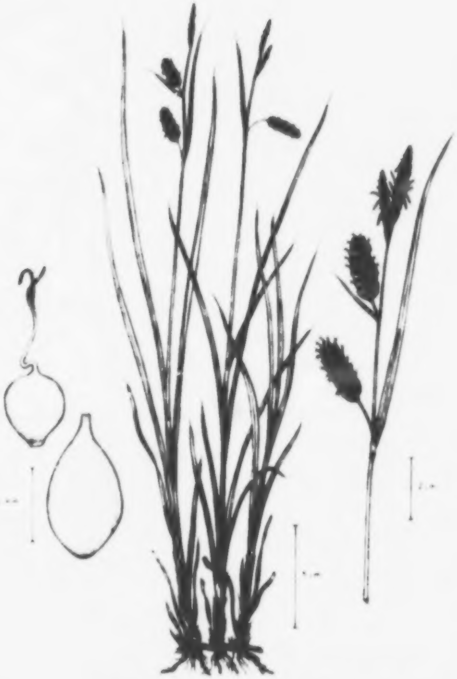
Marshes and edges of lakes and rivers, from low to fairly high altitudes; circumboreal in North America south to Oregon, Utah, Colorado, Missouri and New York; general but not common in the interior of British Columbia.

48. VESICARIAE

126. *Carex saxatilis* L. **Russet sedge**

Rhizomes long, slender. *Culms* arising singly or a few together, up to 8 dm tall, slender, erect, sharply triangular, reddish-tinged at base, basal sheaths breaking and becoming somewhat filamentose, old leaves conspicuous. *Leaves* 3-7 to a culm, clustered on its lower third, elongate, spraingly septate-nodulose, stiff, flat with revolute margins or somewhat channeled toward the base, up to 5 mm wide, rough toward the apex. *Staminate spike* terminal (occasionally with an extra sessile one), strongly peduncled, linear; *lateral spikes* 1-3, pistillate, widely separate, rough, slender-peduncled and spreading or drooping, spikes oblong-cylindric, up to 3.5 cm long, densely many-flowered, perigynia ascending; *lowest bract* leaf-like, shorter than or exceeding the inflorescence, little if at all sheathing, upper bracts reduced; *scales* ovate or ovate-lanceolate, acute to acuminate, dark-reddish-black, midrib lighter, margins hyaline, apex conspicuously white-hyaline, somewhat narrower than and from one-half to nearly as long as the perigynia; *perigynia* 20-75 to a spike, ovoid-lanceolate, not inflated, smooth and shining, 3.5-5.0





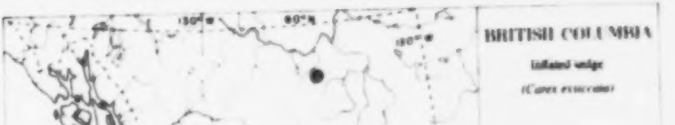
Russet sedge *(Carex saxatilis)*

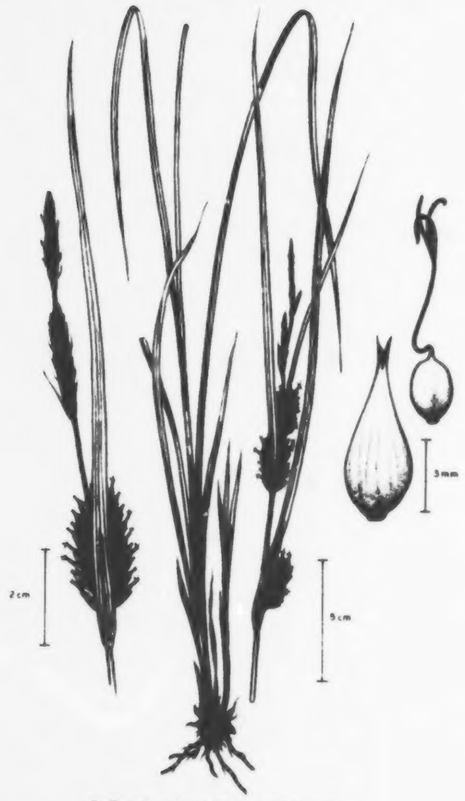
mm long and about 2 mm wide, membranous, dull greenish-yellow but usually dark reddish-black-tinged at maturity, nerveless or nearly so ventrally, obscurely few-nerved dorsally, rounded at the substipitate base, abruptly very short beaked, beak slender, dark-tinged at the tip; *achenes* lenticular, broadly obovoid, yellowish, sessile, tapering into and continuous with the persistent, strongly bent style; *stigmas* 2, occasionally 3. (*C. physocarpa* Presl.)

Rocky shores of mountain lakes and streams, wet mountain meadows; circumboreal; south to Colorado, Utah, Nevada and Washington; widespread throughout British Columbia.

127. *Carex exsiccata* Bailey **Inflated sedge**

Caespitose, rootstocks stout, short-creeping. *Culms* erect, up to 10 dm tall, exceeded by the upper leaves, sharply triangular, roughened below the spikes, more or less reddish-tinged at the base, basal sheath breaking easily, becoming somewhat filamentose. *Leaves* 4-8 to a culm, the lower more or less clustered, 3-7 mm wide, flat, margins roughened, revolute, conspicuously septate-nodulose. *Staminate spikes* 2 or 3, more of less separate to approximate, distant from the pistillate, the upper peduncled, the lower sessile, narrowly linear, 2-4 cm long; *pistillate spikes* 2 or 3, more or less markedly separate, erect, sessile or short-peduncled, oblong-cylindrical to narrowly cylindric, 2.5-7.5 cm long perigynia very numerous, ascending-sreading; *bracts* leaf-like, not sheathing, the lowest exceeding the inflorescence; *scales* ovate to lanceolate, narrower than and from one-third to one-half the length of the perigynia, acute, acuminate to short-awned, reddish- to yellowish-brown, centre lighter, 3-nerved, margins hyaline; *perigynia* lanceolate, globose-ovoid, 7.0-10.00 mm long, inflated, glabrous, submembranous, shining, yellowish-green or brown-tinged, strongly several- to many-nerved, rounded at the





Inflated sedge *(Carex exsiccata)*

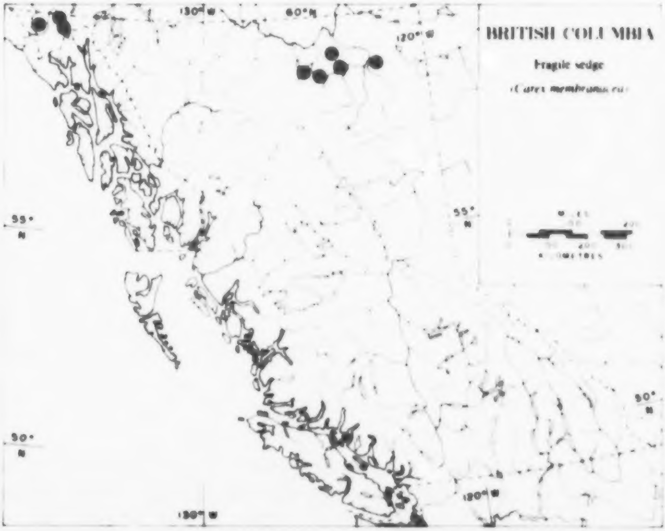
substipitate base, tapering into a more or less abruptly narrowed, smooth, slender, bidentate beak 2-3 mm long, teeth slender, stiff, erect; *achenes* small, obovoid, trigonous, yellowish, contracted at the apex into, and continuous with, the long, persistent, abruptly bent, style; *stigmas* 3. (*C. vesicaria* of some West. Am. auth.)

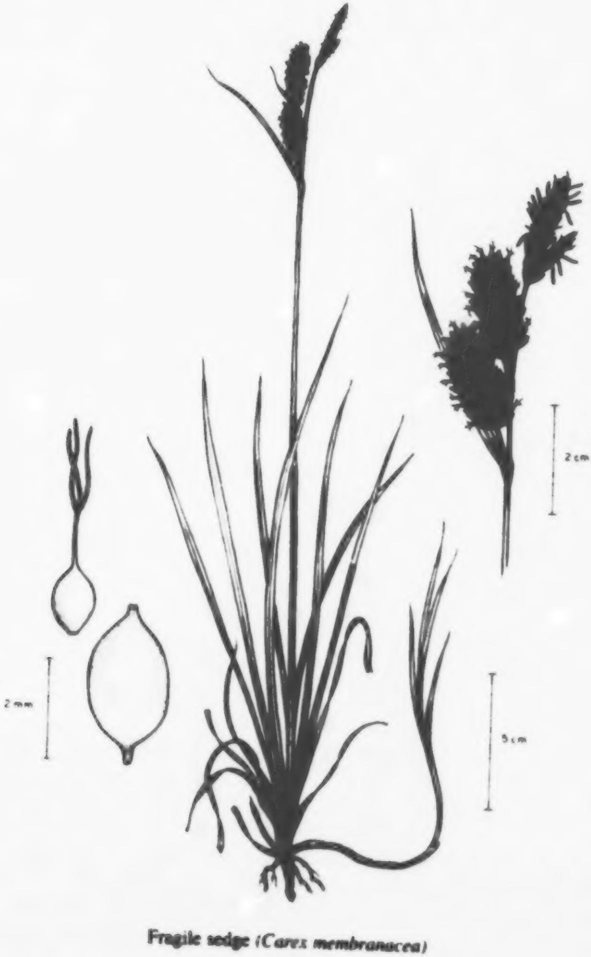
Wet habitats generally, from low to mid-elevations; southern Alaska to California, eastward to Montana, Utah and Nevada; in British Columbia, widely spread, mostly in the southern half of the province.

128. *Carex membranacea* Hook. Fragile sedge

Caespitose. Stoloniferous with stout, scaly rootstocks. *Culms* stout, stiff, up to 4 dm tall, smooth, obtusely triangular, the base covered with persistent old leaves with reddish-purple sheaths. *Leaves* flat, 3-5 mm wide, somewhat curled, amrgins revolute, equalling or shorter than the culms, septate-nodulose under a lens. *Spikes* 3-5, somewhat crowded, terminal staminate, up to 1.5 cm long, the lower all pistillate, sessile or short-peduncled, erect or somewhat spreading, dense-flowered, up to 3 cm long; *lowest bract* leafy, conspicuous, non-sheathing; *pistillate scales* obtuse to acute, dark brown or purplish-black, shorter than the perigynia; *perigynia* 3.5-4.5 mm long, inflated, tightly crowded, suborbicular, membranous, purplish-black, lustrous, abruptly short-beaked; *achenes* obovoid, about 1.5 mm long, *stigmas* 3, rarely 2.

Dry tundra in turfy places; Arctic North America and extreme northern British Columbia; in British Columbia, known only from north of Lat. 58° N.

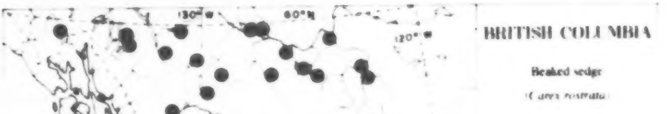


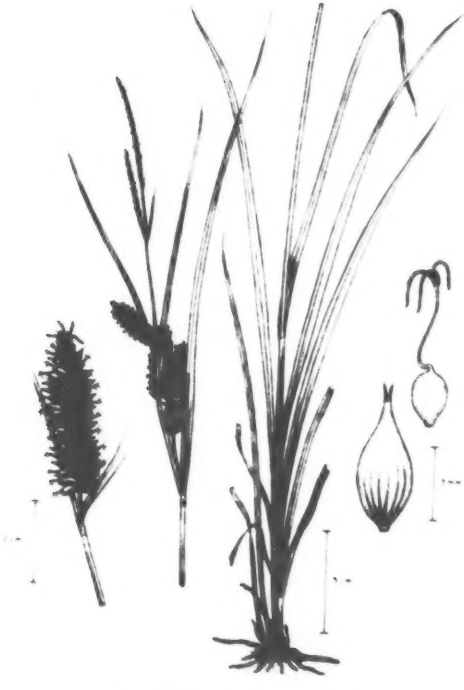


Fragile sedge *(Carex membranacea)*

129. *Carex rostrata* Stokes **Beaked sedge**

Caespitose, rootstocks short, stolons elongate, creeping. *Culms* up to 12 dm tall, erect, stout, exceeded by the upper leaves, bluntly triangular below the spikes, base thick, spongy, basal sheaths little of at all filamentous, old leaves conspicuous. *Leaves* 4-12, conspicuously septate-nodulose, rather thick, flat, up to 12 mm wide, margins revolute, more of less channeled at the base, long-attenuate. *Staminate spikes* 2-4, narrowly linear, up to 6 cm long, upper peduncled, the lower sessile; *pistillate spikes* 2-5, jore or less widely separate from one another and from the staminate spikes, about 1.5 cm long, cylindric to oblong, densely many-flowered, perigynia ascending to squarrose-spreading at maturity; *bracts* leaf-like, little if at all sheathing, exceeding the inflorescence; *scales* ovate or lanceolate, long-acuminate, varying to rough-awned or acute, reddish-brown with 3-nerved centre and hyaline margins, narrower than and from slightly longer than to slightly shorter than the perigynia; *perigynia* very numerous, ovoid, 3.5-8.0 mm long, more or less strongly inflated, glabrous, membranous but firm, shining, yellowish-green, or at maturity straw-coloured, strongly severaly-nerved, rounded at the base,





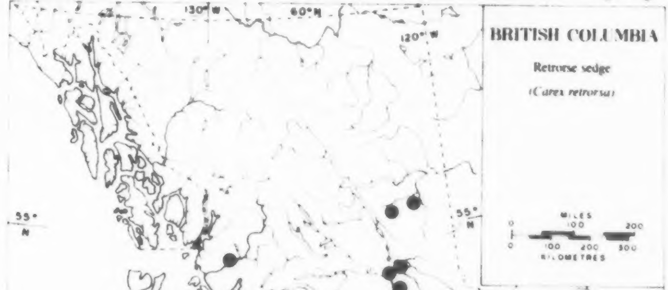
Beaked sedge (*Carex rostrata*)

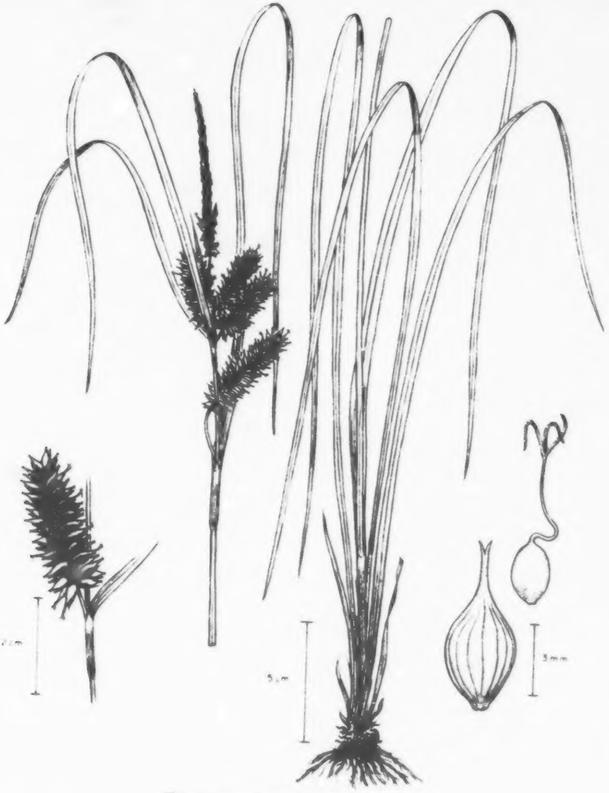
contracted into a smooth bidentate beak 1-2 mm long, teeth slender, stiff, erect, 0.5-0.75 mm long; *achenes* 1.25 mm long, obovoid, trigonous with blunt angles, yellowish-brown, tapering into a continous with the slender, persistent, twisted or sharply bent style; *stigmas* 3.

Wet soil or shallow water, marshes and edges of lakes; from lowlands to moderate altitudes; Alaska to Greenland, south to California, New Mexico, Nebaska, Indiana and Delaware; Eurasia; common throughout British Columbia.

130. ***Carex retrorsa*** **Schwein.** **Retrorse sedge**

Densely caespitose, rootstocks very short. *Culms* up to 10 dm tall, rather stout, stiff, much exceeded by the upper leaves and bracts, obtusely triangular, more or less purplish-red-tinged at the base, the lower sheaths breaking and becoming slightly filamentose. *Leaves* usually 4-7 to a culm, not clustered at the base, septate-nodulose, flat with revolute margins, up to 10 mm wide, long-attenuate. *Staminate spikes* 1-4, often with a few perigynia at the middle or below, narrowly linear, little to strongly pedunculate, the terminal spike up to 6 cm long; *pistillate spikes* 3-8, erect, all aggregated or the lower widely separate and long-peduncled, oblong-cylindric to short-oblong, up to 8 cm long, densely flowered, upper perigynia widely spreading, the lower often reflexed; *bracts* leaf-like, several times longer than the inflorescence, the lower more or less sheathing; *scales* lanceolate, acute or cuspidate, much narrower than but as long as the body of the perigynia, yellowish-brown or reddish-brown, centre green, 3-nerved; *perigynia* obovoid, 7-10 mm long, much inflated, suborbicular in cross-section, very membranous, glabrous, shining, densely puncticulate, yellowish-green or becoming light-





Retrorse sedge *(Carex retrorsa)*

brown-tinged, coarsely about 10-nerved, rounded at the short-stipitate base, contracted into a slender, smooth, bidentate beak 2-3.5 mm long, the teeth slender, long, erect; *achenes* small, oblong-obovoid, trigonous with blunt angles, contracted into and continuous with the slender, twisted or very abruptly bent, persistent style; *stigmas* 3.

Marshes, wet meadows, etc.; southern British Columbia to Quebec, south to Oregon, Nevada, Colorado, Ohio and New Jersey; general in British Columbia south of about Lat. 55° N.

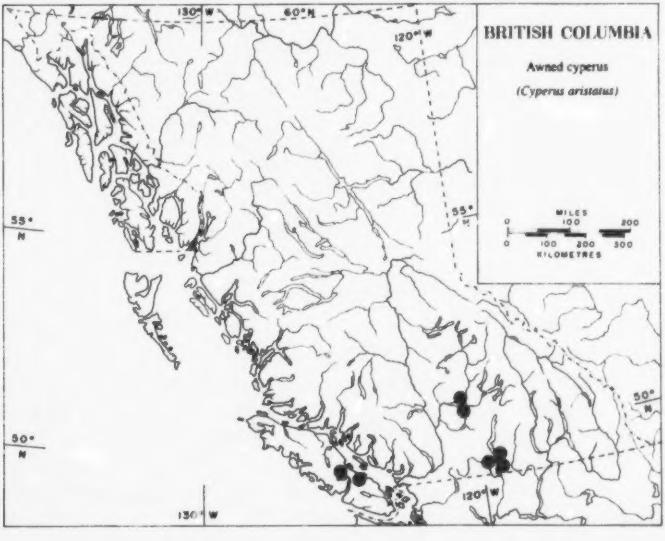
CYPERUS L. Cyperus; Flatsedge

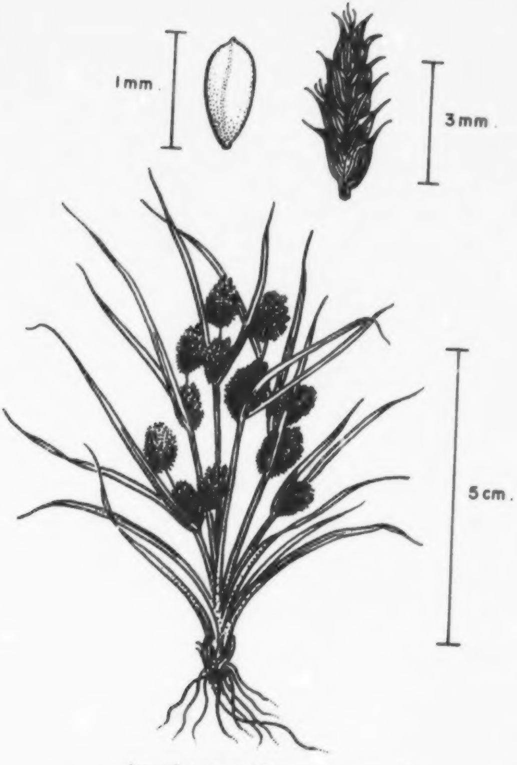
Annual or perennial herbs. Culms mostly triangular, simple, solid, leafy near the base, and the 1 or more leaves at the top, forming an involucre to the head. Peduncles of the inflorescence unequal, sheathed at the base. Spikelets many- to few-flowered, mostly flat, variously arranged, mostly in clusters or heads; scales 2-ranked, deciduous when old; stamens 1-3; style 2-or 3-cleft, deciduous; achene lenticular or trigonous, naked at the apex.

Large genus of tropical and temperate regions.

1. *Cyperus aristatus* Rottb. **Awned cyperus**

Annual, tufted. *Culms* up to 20 cm tall, slender, about equalling the leaves. *Leaves* 2 or 3 to a culm, from near the base 1-2 mm wide. *Bracts* 2-4, much longer than the inflorescence; *spikes* crowded into a head-like cluster, or with a few exserted rays; spikelets flattened, linear-oblong, 5-10 mm long, usually with 6-10 flowers; *scales* oblong-lanceolate, prominently many-nerved, at first green, later brown, the body 1-2 mm long,


BRITISH COLUMBIA
Awned cyperus
(Cyperus aristatus)
MILES
0
100
200
0
100
200
300
KILOMETRES
130°W
60°N
120°W
55°N
55°N
50°N
50°N
120°W
130°W



Awned cyperus *(Cyperus aristatus)*

acuminate into a recurved, spreading awn about half as long as the body; stamen 1; *achenes* trigonous, oblong to obovoid, brown; *stigmas* 3. (*C. inflexus* Muhl.)

Damp or wet, particularly sandy soil; southern British Columbia to Quebec, south throughout the United States and Tropical America; Old World; known in British Columbia from the south Okanagan, Kamloops and Vancouver Island.

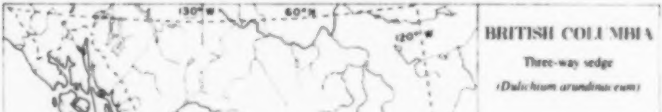
DULICHIUM Pers. Dulichium

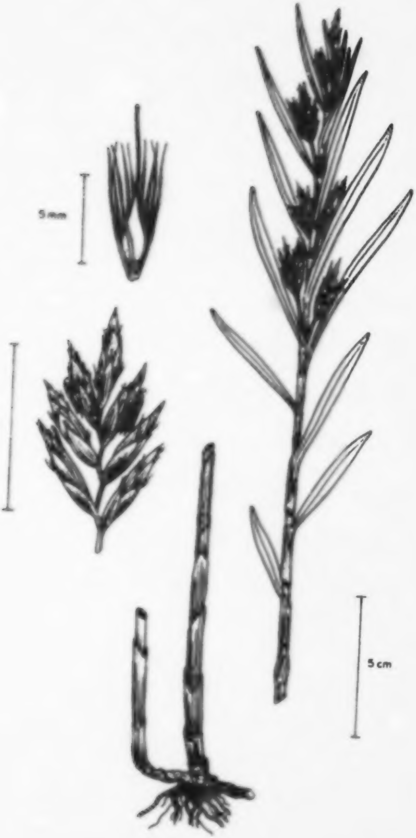
Perennial herb with horizontal rhizomes. Culms terete, hollow, up to 10 dm tall, jointed, leafy to the summit. Leaves short, flat, linear, 3-ranked, more or less evenly distributed along the culm, the lower bladeless. Spikelets linear, flattened, sessile, in 2-ranks on peduncles from the leaf-sheaths; scales lanceolate, decurrent; perianth of 6-9 downwardly barbed bristles; stamens 3; stigmas 2; achene lenticular, flattened, linear-oblong, beaked with the long persistent style.

A genus with a single species; North America.

1. ***Dulichium arundinaceum*** **(L.) Britt.** **Three-way sedge**

Swamps, margins of ponds and streams; British Columbia to Newfoundland, south throughout the United States; in British Columbia, occurs mainly in southwestern corner as well as scattered locations in the southern interior.


BRITISH COLUMBIA
Three-way sedge
(Dulichium arundinaceum)
130° W
60° N
120° W
55° N
50° N
MILES
0
100
200
0
100
200
300
KILOMETRES



Three-way sedge *(Dulichium arundinaceum)*

ELEOCHARIS R.Br. Spike-rush

Annual or perennial herbs of water or wet ground, solitary or caespitose, rhizome often long. Culms simple, erect, divaricate or declining. Leaves reduced to bladeless sheaths. Spike solitary, terminal, ovoid to linear, terete or somewhat flattened, few- to many-flowered; bractless; scales spirally arranged, often deciduous at maturity, mostly scarious or hyaline, the lower 1-3 sterile, the other fertile; flowers perfect, borne singly in the axils of the scales; stamens 1-3; stigmas 2 or 3, the base of the style expanded to form a tubercle which is usually enlarged at maturity and persistent on the achene; perianth represented by 6 bristles (usually), sometimes more, often reduced in number and size, or lacking.

A genus of about 150 species of worldwide distribution.

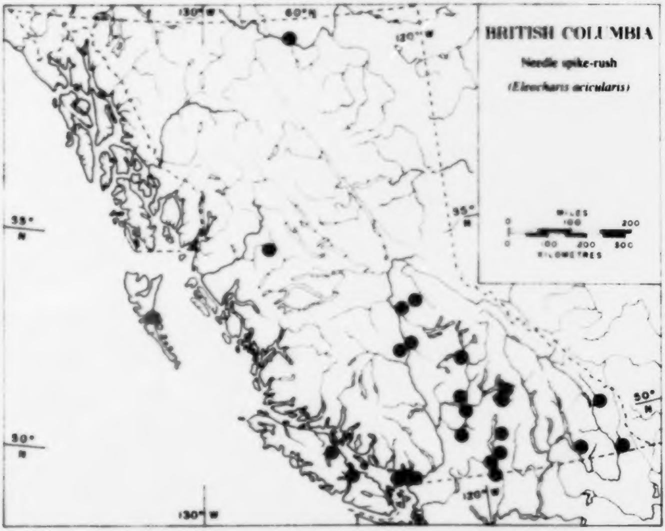
KEY TO ELEOCHARIS

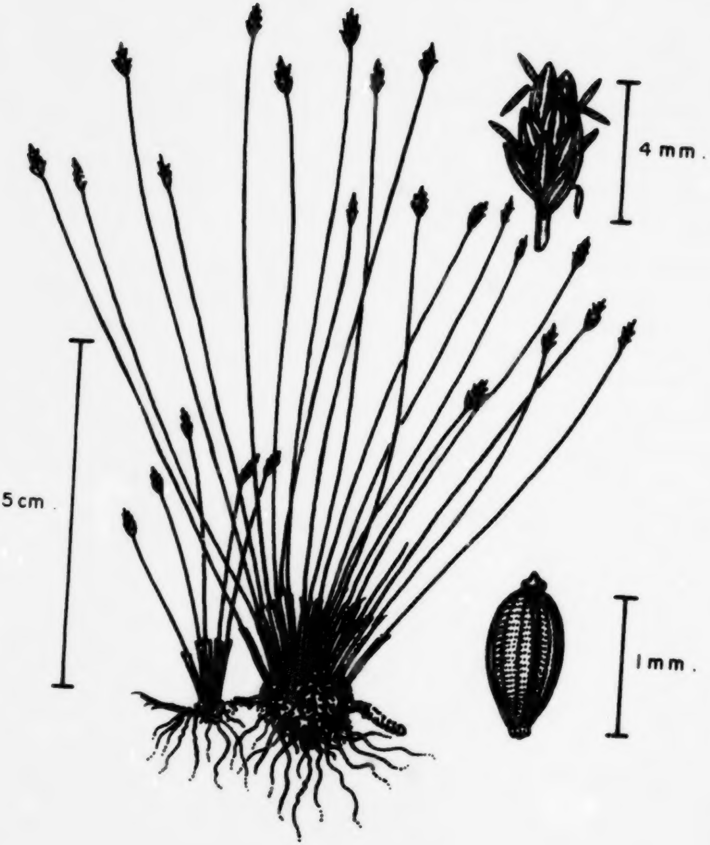
1. Stigmas 2; achenes lenticular or biconvex.
   2. Tubercle flat, triangular, its base nearly or quite as broad as the achene; annual, caespitose species .... *E. ovata*
   2. Tubercle conic, thick, somewhat constricted at the base of the achene; perennial, rhizomatous species.
      3. Spikelets with a single basal scale that completely encircles the top of the culm; tubercles rounded at the apex, spongly, about half as large as the body of the achene .... *E. kamtschatica*
      3. Spikelets with 2 or 3 basal scales encircling the top of the culm; tubercles pyramidal, hard, much smaller than the body of the achene .... *E. palustris*
1. Stigmas 3; achenes three-angled to nearly terete.
   4. Tubercle confluent with the achene, merely conic, not forming a distinct apical cap.
      5. Spikelet ovoid, 2-8-flowered, 2-7 mm long; culms rarely more than 3 dm tall.
         6. Plants caespitose, matted; achenes, including the tubercle, 1.0-1.5 mm long .... *E. parvula*
         6. Plants erect, scarcely caespitose, not matted; achene, including the tubercle, 2-3 mm long .... *E. quinqueflora*
      5. Spikelet fusiform, many-flowered, 8-20 mm long; culms 4-15 dm tall .... *E. rostellata*
   4. Tubercle obviously differentiated from the achene forming a distinct apical cap.
      7. Achene narrowly obovoid, about twice as long as wide, nearly circular in cross-section .... *E. acicularis*
      7. Achenes broadly obovoid, two-thirds to fully as wide as long, 3-angled .... *E. tenuis*

Eleocharis acicularis R. & S. **Needle spike-rush**

Perennial, usually in mats; rootstock capillary, stolons numerous. *Culms* mostly up to 20 cm tall, capillary, deep green, mostly angular, grooved; *sheaths* loose, reddish-striate at base, tip scarious, somewhat inflated. *Spikelets* ovate to linear, 2-7 mm long, acute, usually 5- to 8-flowered; *scales* ovate-lanceolate, acute, agreen, sides reddish-brown, margins scarious; *achenes* about 1 mm long, obovate-oblong, yellow to white or brown, obscurely 3-angled with many longitudinal ribs; *style-base* narrow, somewhat compressed, conical-triangular; *bristles* 3-4, brownish, slender, equalling the achene, often wanting; *stigmas* 3.

Margins of ponds, rivers and ditches; circumboreal; in North America from British Columbia to Labrador and Newfoundland, south to Mexico and Florida; in British Columbia, rare in the north but common in the southern half of the province.


BRITISH COLUMBIA
Needle spike-rush
(Eleocharis acicularis)
MILES
0 100 200
0 100 200 300
KILOMETRES
60° N
130° W
120° W
55° N
50° N

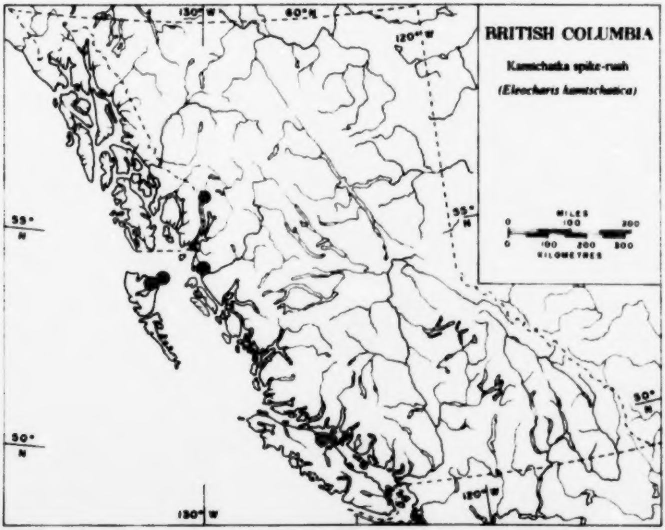


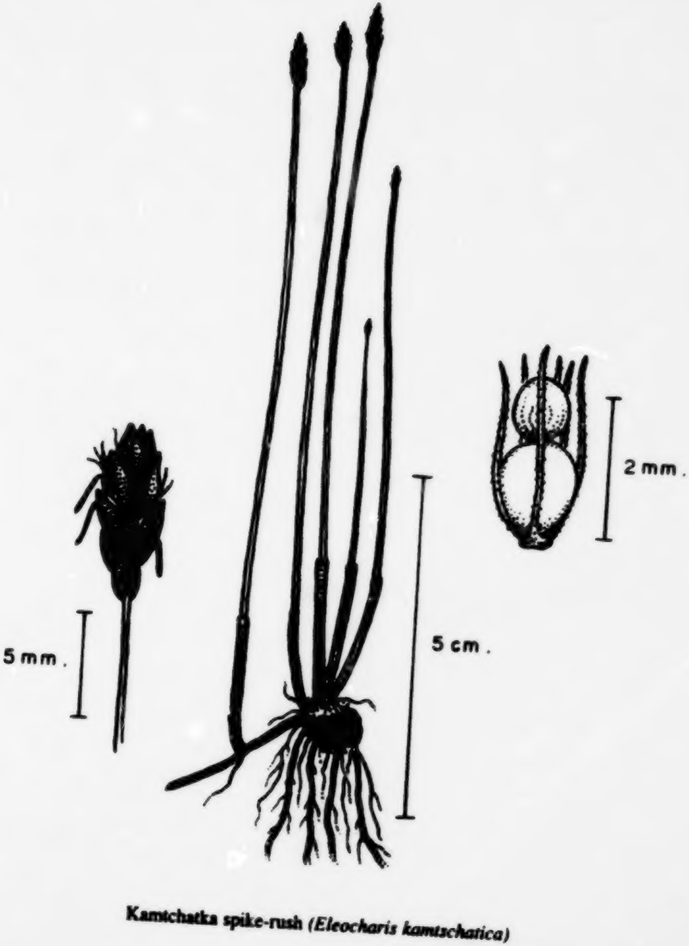
Needle spike-rush (*Eleocharis acicularis*)

Eleocharis kamtschatica (C.A. Meyer) Komarov Kamtchatka spike-rush

Perennial, loosely stoloniferous. *Culms* tufted, filiform, up to 3 dm tall, 0.5-1.0 mm in diameter at the summit of the sheath, terete; *sheaths* reddish, close. *Spike* oblong-lanceolate, 4-12 mm long, 2.5-5.0 mm broad, loosely few-flowered; *basal scale* broadly ovate, completely encircling the base of the flowering scales, chestnut-coloured, with pale scarious margin; *fertile scales* 10-20, broadly ovate, rounded at the tip, chestnut-coloured, the lower and median about 3 mm long; *anthers* usually just less than 2 mm long; *achenes* obovoid, about 1.5 mm long, 1.2 mm broad; *tubercle* as long as to longer than the achene, mitre-shaped, blunt, ovoid; *perianth* lacking or of 3-6 delicate bristles, sometimes slightly exceeding the achene.

Mud flats and boggy meadows; Alaska and northern British Columbia, Kamtchatka and Honshu, Japan; known in British Columbia from the Queen Charlotte Islands, the adjacent mainland and northeastern Vancouver Island.


BRITISH COLUMBIA
Kamtchatka spike-rush
(Eleocharis kamtschatica)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
50° N

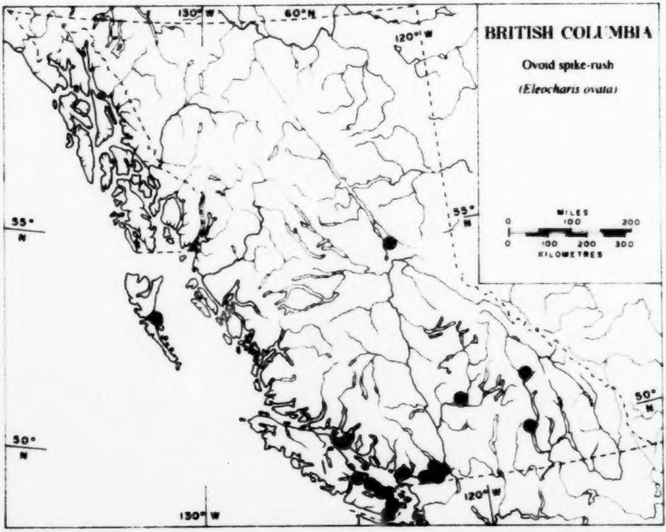


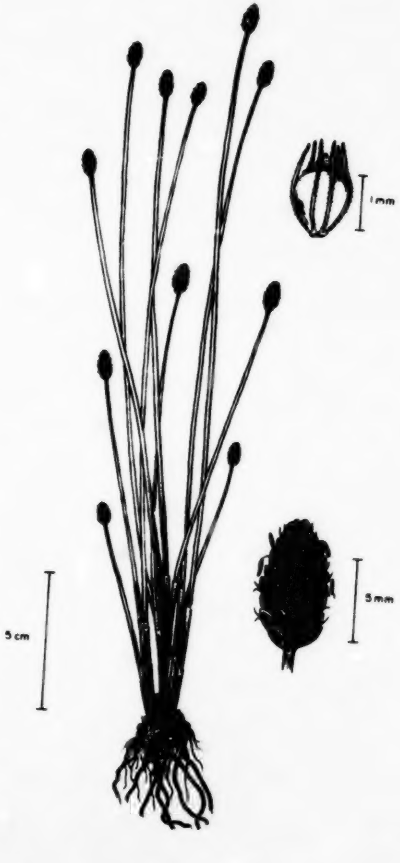
Kamtchatka spike-rush (*Eleocharis kamtschatica*)

Eleocharis ovata **(Roth) R. & S.** **Ovoid spike-rush**

Annual. *Culms* numerous, erect, up to 5 dm tall, capillary to 1.5 mm in diameter, yellowish-green; sheaths purplish at the base, apex firm, somewhat oblique. *Spikelets* globose-ovoid to ovoid-cylindric, obtuse, many-flowered, 2-13 mm long; *scales* ovate-oblong to suborbicular, brown, margins narrowly scarious, midrib usually greenish; style 2- or 3-cleft; *achene* about 1.0 mm long, turbinate-obovoid, narrowed at the base, pale- to deep-brown, smooth, shining; *style-base* strongly flattened, deltoid, acute, nearly as wide as the achene; *bristles* 6-7, dark-brown, coarse, exceeding the achene, retrorsely toothed. (*E. obtusa* [Willd.] Schultes)

Muddy or wet places from sea level to mid-altitudes; circumboreal; found in most of North America except the far north; Hawaiian Islands; mostly in the southern part of British Columbia, but on the coast as far north as the Queen Charlotte Islands.


130° W
60° N
120° W
BRITISH COLUMBIA
Ovoid spike-rush
(Eleocharis ovata)
55° N
55° N
MILES
0
100
200
0
100
200
300
KILOMETRES
50° N
50° N
120° W
130° W

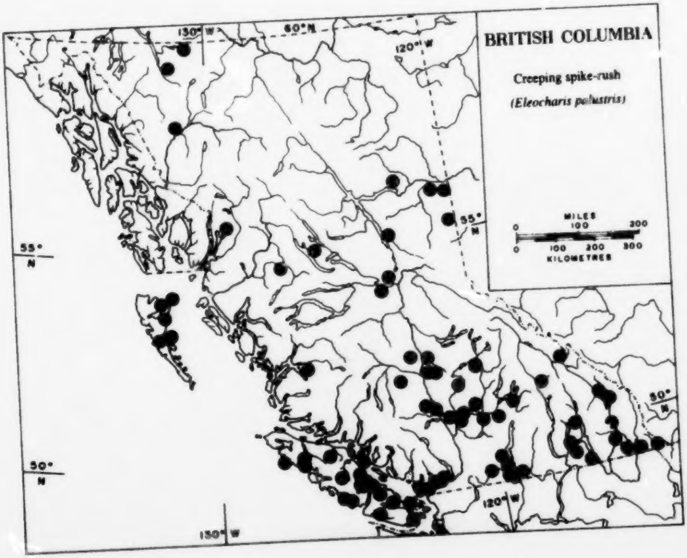


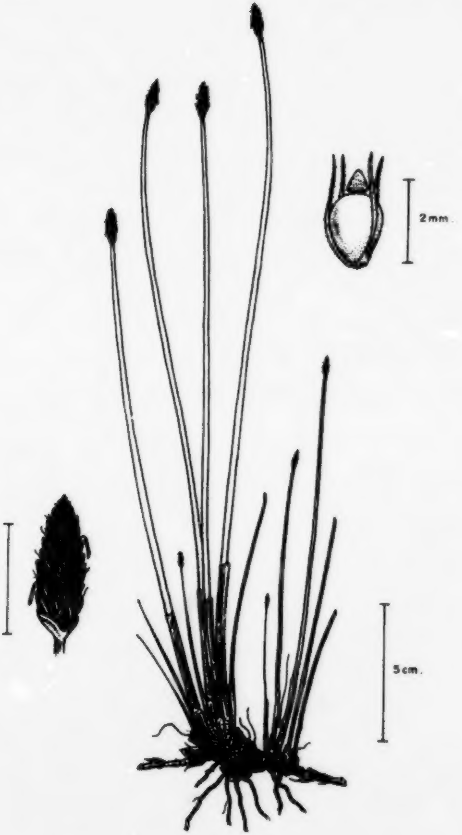
Ovoid spike-rush (*Eleocharis ovata*)

Eleocharis palustris (L.) R. & S. — Creeping spike-rush

Perennial. Loosely or densely caespitose, rhizomes long-creeping. *Culms* up to 10 dm tall, round or oval in cross section, stout or slender, striated; basal sheaths, obliquely truncated, sometimes mucronate. *Spikelets* up to 2.5 cm long; empty *scales* at base, 1 or 2 (3), lowest often nearly encircling the culm; fertile scales, lanceolate, brown to purple or green, centre green, margins scarious; *achenes* lenticular, yellowish-brown, 1.0-1.5 mm long; tubercle broadly to narrowly pyramidal or cone-shaped, constricted at base; *bristles* typically 4, sometimes wanting, downwardly barbed, about equalling the achene; *stigmas* 2.

Widespread in ditches and at the margins of ponds from sea level to mid-altitudes, tolerant of alkali; throughout temperate North America; Eurasia; common throughout British Columbia.


BRITISH COLUMBIA
Creeping spike-rush
(Eleocharis palustris)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W

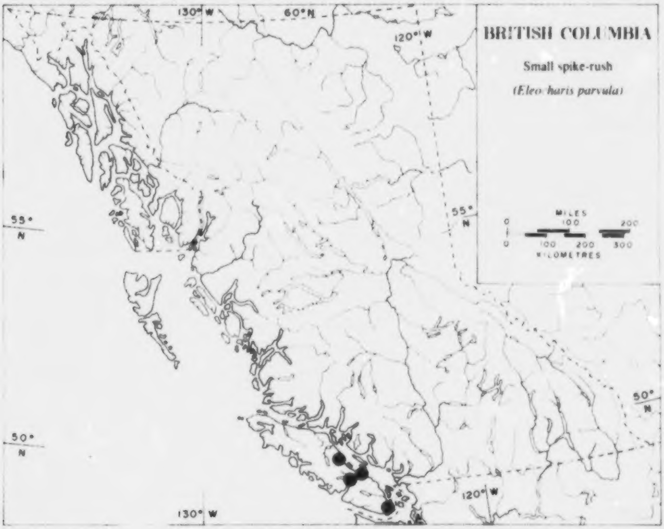


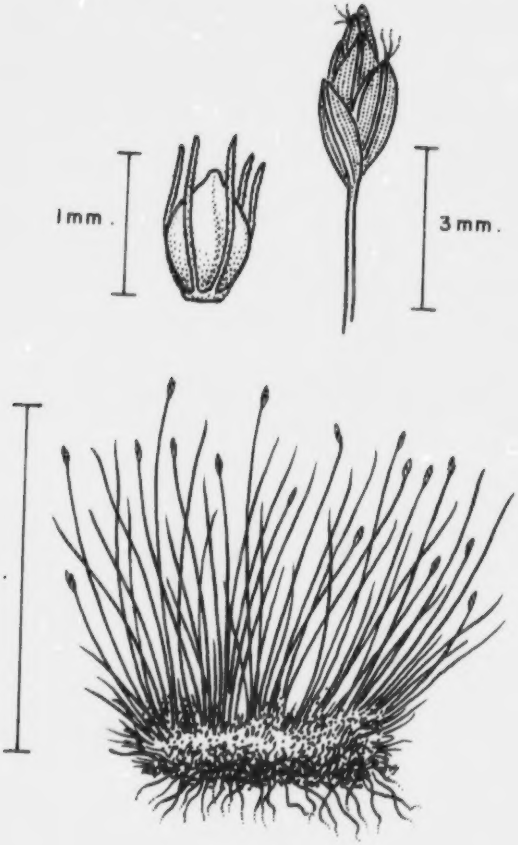
Creeping spike-rush *(Eleocharis palustris)*

***Eleocharis parvula* (R. & S.) Link** **Small spike-rush**

Small perennial, rootstocks slender, inconspicuous, forming mats; roots fibrous, often with small tuberous stolons. *Culms* capillary, up to 7 cm tall, greenish or straw-coloured, often spongy and translucent, becoming somewhat striate in drying. *Spikelets* 2.0-3.5 mm long, broadly ovate, 2-9 flowered; *scales* ovate, scarcely keeled, obtuse or acute, striate and papery, green to yellowish, often dull brown on the sides; *lowest scale* empty, half the length of the spikelet; *achenes* obovate, 1.0-1.4 mm long, straw-coloured, equilaterally triangular with prominent angles, smooth and shining; *tubercle* very small, triangular, greenish; *bristles* straw-coloured, equalling or exceeding the achene; *stigmas* 3.

Salt marshes, brackish mud or sand, particularly along the seacoast, rare inland in salt lakes; Atlantic Coast from Newfoundland south to West Indies, also New York and Michigan, on the Pacific Coast from British Columbia to northern California; Atlantic and Mediterranean coasts of Europe; in British Columbia, known only from the southern half of Vancouver Island.


BRITISH COLUMBIA
Small spike-rush
(Eleocharis parvula)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W

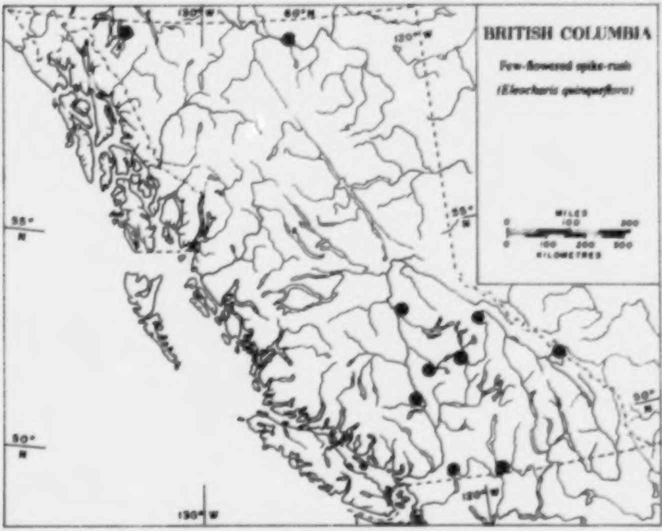


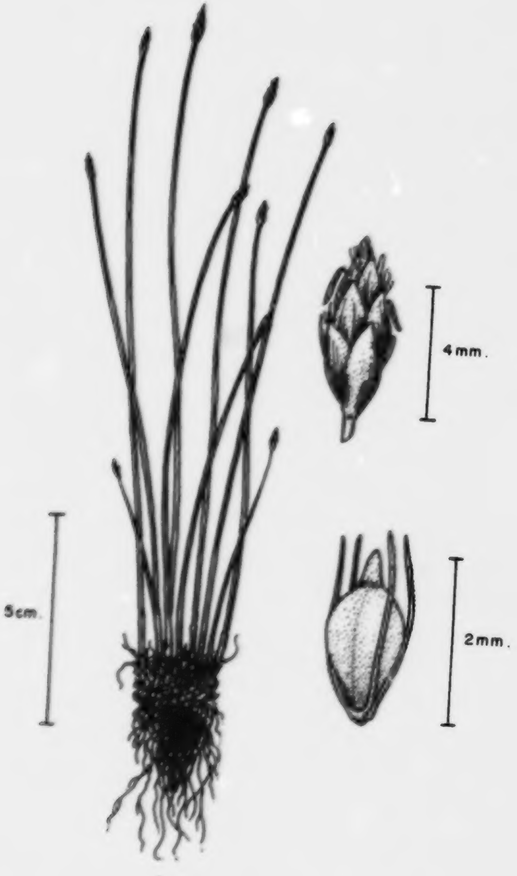
Small spike-rush *(Eleocharis parvula)*

Eleocharis quinqueflora (Hartm.) Schw. Few-flowered spike-rush

Perennial. Rootstocks creeping, stolons often with conspicuously thickened buds. *Culms* erect, up to 4 dm tall, slender, striate. *Spikelets* 4-7 mm long, ovate, 2- to 7-flowered; *scales* all flower-bearing, chocolate-brown, margins and tip scarious, the two lower larger; *filaments* often whitened and elongated; *achenes* broadest above the middle, obovoid or fusiform, 2-3 mm long, 3-ribbed, prominently reticulate with small rectangular cells; *tubercle* triangular or lanceolate, tipped by the dark style; *bristles* slender, irregularly toothed, equalling or exceeding the achene, sometimes poorly developed; *stigmas* 3. (*E. pauciflora* [Lightf.] Link)

Wet calcareous soil, from low to quite high elevations; circumboreal, south in North America to California, New Mexico, Illinois and New Jersey; widely scattered through the interior of British Columbia.


BRITISH COLUMBIA
Few-flowered spike-rush
(Eleocharis quinqueflora)
MILES
0 100 200
0 100 200 300
KILOMETRES
130° W
60° N
120° W
55° N
50° N

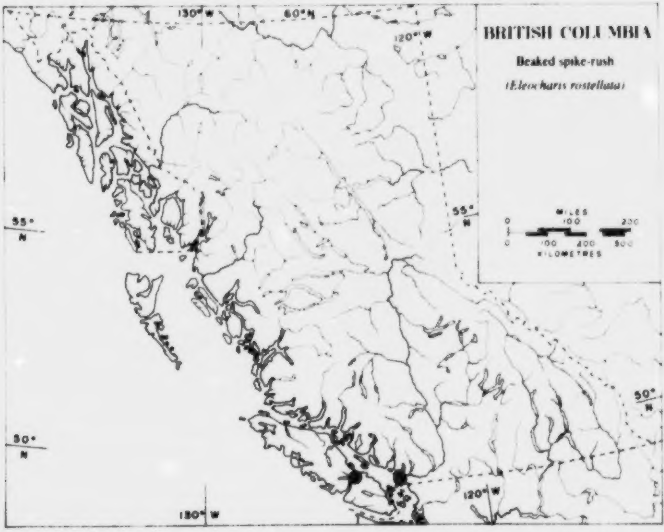


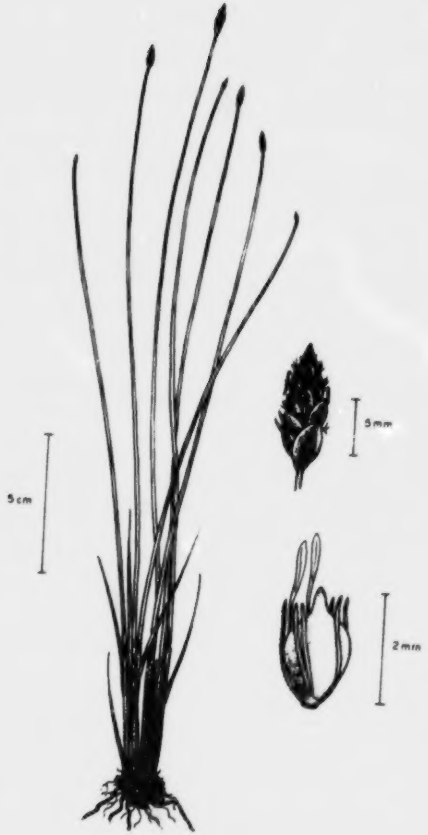
Few-flowered spike-rush (*Eleocharis quinqueflora*)

***Eleocharis rostellata* (Torr.) Torr.** **Beaked spike-rush**

Perennial. Rootstocks short, vertical, roots thickened, whitish. *Culms* erect or arching, up to 15 dm or more in height, wiry, conspicuously flattened and grooved, 1-2 mm wide, often reclining and rooting from the tip. *Spikelet* spindle-shaped, acute, 12- to 20-flowered, 8-20 mm long; *scales* light-brown, rigid, ovate, the uppermost becoming acute; *achenes* obovoid, obtusely triangular or plano-convex, olive, shiny, 2-3 mm long, narrowed into the obtuse light-green beaked *style-base*, which is about one-third the length of the achene; *bristles* firm, irregularly toothed, light-brown, equalling the achene; *stigmas* 3.

Salt marshes along the coast, and in alkali and calcareous regions in the interior; southwestern British Columbia to Nova Scotia, south to Mexico, Florida, Greater Antilles, Cuba and the Andes. Very rare in British Columbia, known with us only from Alberni and Point Gray.


BRITISH COLUMBIA
Beaked spike-rush
(Eleocharis rostellata)
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W
MILES
0 100 200
0 100 200 300
KILOMETRES

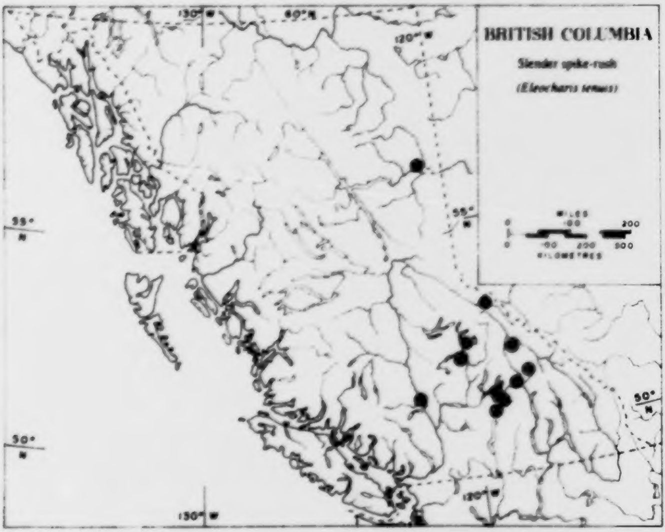


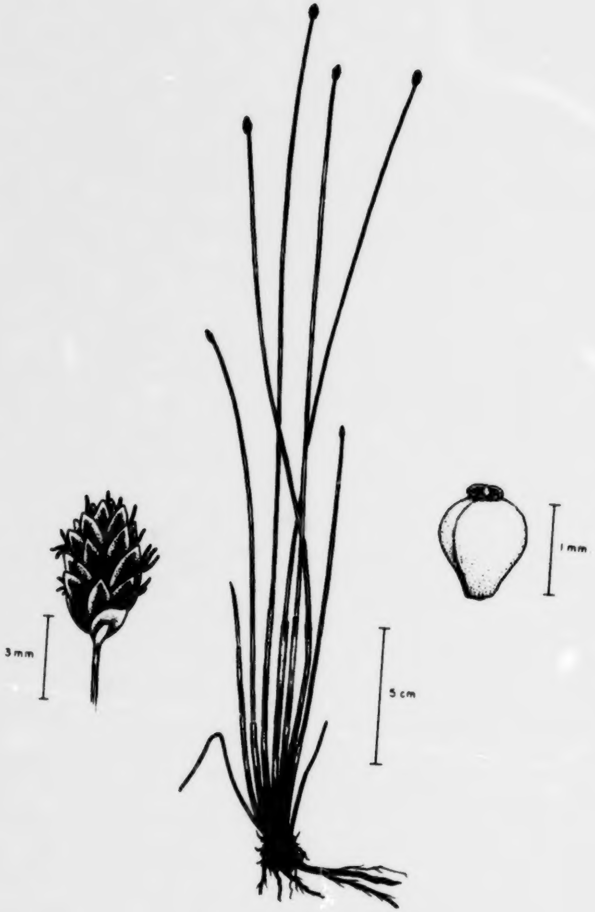
Beaked spike-rush (*Eleocharis rostellata*)

Eleocharis tenuis **(Willd.) Schultes** **Slender spike-rush**

Perennial. Caespitose, rhizome rather thick. *Culms* up to 9 dm tall, very slender, 6- to 8-angled; *sheaths* reddish-purple towards the base, truncate at the top. *Spikelets* 2-10 mm long, ellipsoid to ovoid; *outer scale* relatively large, somewhat orbicular, other scales narrower, ovate, obtuse or acute, purplish-brown or black, margins scarious; *achenes* trigonous, obovoid, yellow or golden, distinctly roughened, about 1 mm long, often persistent after the scales have fallen; *tubercle* minute, usually depressed with a minute central depression with an apiculate centre, rarely low pyramidal; *bristles* 2-4, about half as long as the achene; *stigmas* 3. (*E. nitida* Fern., *E. compressa* Sull.)

Wet places; general in eastern Canada and United States, occasional in British Columbia, Alberta and Montana; of scattered occurrence in the southern interior of British Columbia and from the Peace River area.


BRITISH COLUMBIA
Slender spike-rush
(Eleocharis tenuis)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
50° N



Slender spike-rush (*Eleocharis tenuis*)

ERIOPHORUM L. Cotton-grass

Perennial herbs. Culms solid, triangular or terete. Leaves with closed sheaths, blades elongate, grass-like, the upper sheaths often without blades. Inflorescence terminal of 1 to several spikes, subtended by 1 to several leaf-like or scale-like bracts; scales of spikelet spirally arranged, scarious, not awned, 1- to 5-nerved; perianth represented by numerous conspicuous, persistent bristles, either white or cinnamon-coloured, much elongate, at least in fruit; stamens 3; stigmas 3; achenes unequally trigonous.

A small boreal genus of about 20 species.

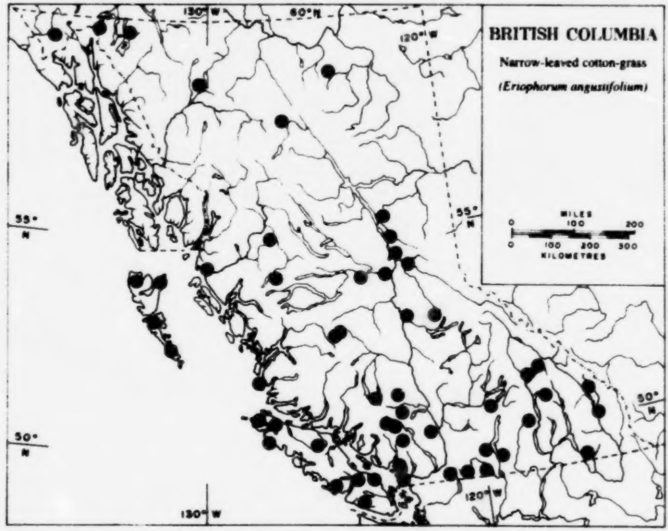
KEY TO ERIOPHORUM

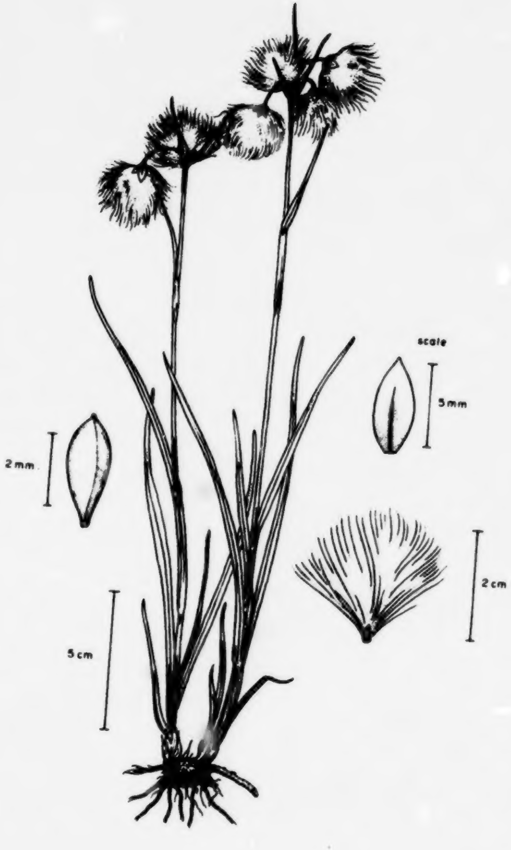
1. Spikelets more than 1, subtended by one or more leaf-like bracts; stem leaves well developed.
   2. Leaves linear, triangular in cross section, channeled; involucral bract 1, shorter than the inflorescence . . . . *E. gracile*
   2. Leaves flat; involucral bracts 2 or more, longer than the inflorescence.
      3. Midrib of scales prominent to the very tip . . . . *E. viridi-carinatum*
      3. Midrib of scales not prominent to the tip . . . . *E. angustifolium*
1. Spikelets 1, leaf-like bracts lacking; stem sheaths lacking a blade, or with a very short blade.
   4. Plants stoloniferous; bristles white or rust-coloured.
      5. Anthers 0.5-1.0 mm long; middle scales lance-attenuate, acute, grayish-black; bristles white . . . . *E. scheuchzeri*
      5. Anthers 1.5 mm long or longer; scales broader with broad, pale margins; bristles usually rust-coloured . . . . *E. chamissonis*
   4. Plants densely tufted; bristles white or sordid.
      6. Scales gray with broad whitish margins, translucent.
      6. Scales translucent, gray with broad whitish margins, with or without a dark centre and base; empty scales reflexed . . . *E. vaginatum*
      6. Scales grayish to greenish-black without conspicuous whitish margins, not clearly translucent; empty scales not relaxed.
         7. Culms less than 2 dm tall; uppermost sheath well below the middle of the culm, usually with a short blade; bristles shining white . . . . *E. callitrix*
         7. Culms taller; upper sheath above the middle of the culm, usually bladeless; bristles tinged with brown . . . *E. brachyantherum*

Eriophorum angustifolium Honck. **Narrow-leaved cotton-grass**

Forming large colonies, rhizomes widely creeping. *Culms* erect, up to 7 dm tall, solitary or in loose tufts, subterete. Both basal and stem leaves present, the uppermost with a well-developed blade usually equalling or exceeding the sheath; *involucral bracts* several, basal bract leaf-like, about twice as long as the inflorescence, erect. *Spikelets* 2-8, on erect peduncles, glabrous or sometimes minutely pubescent, ascending or moderately drooping, up to 8 cm long; *sterile scales* ovate to ovate-lanceolate, *fertile scales* acute to acuminate, membranous, brownish or greyish, the margins paler, translucent, the slender midrib not reaching the tip; *achenes* dark-brown to black, ovoboid, 2.0-2.5 mm long, dull; *bristles* 2.0-3.5 cm long, shining-white becoming sordid. (*E. polystachyon* L. in part)

Swampy soil, muskeg, margins of slow streams from low to quite high altitudes; circumboreal, south in North America to Oregon, Idaho, Utah, New Mexico, Colorado, Iowa, Michigan, New York and Maine; common throughout British Columbia.


BRITISH COLUMBIA
Narrow-leaved cotton-grass
(Eriophorum angustifolium)
130° W
60° N
120° W
55° N
50° N
MILES
0
100
200
0
100
200
300
KILOMETRES

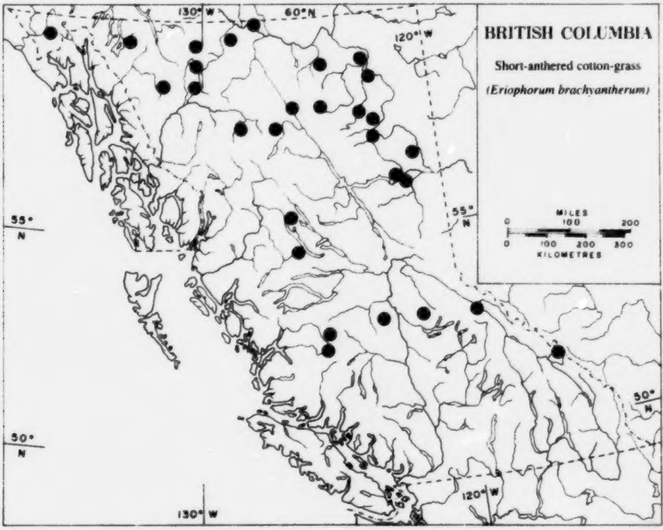

scale
5mm
2mm
2cm
5cm

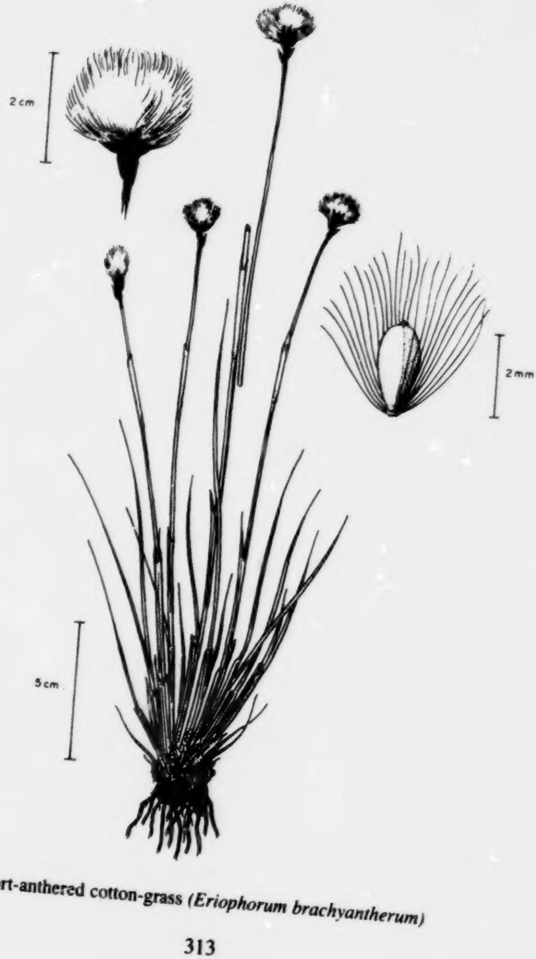
Narrow-leaved cotton-grass (*Eriophorum angustifolium*)

***Eriophorum brachyantherum* Traut. & Meyer** **Short-anthered cotton-grass**

Loosely caespitose, forming small tussocks, rhizome absent. *Culms* 4-17, up to 7 dm tall, slender, terete. *Basal leaves* filiform, smooth, sheaths remote, bladeless, uppermost scarcely inflated. *Spikelet* solitary, globose-obovoid, scarcely 1 cm long in flower, enlarging in fruit; *scales* uniformly blackish-green, narrow, gradually tapering to a slender tip, appressed-ascending; anthers 1-2 mm long; *achenes* cuneate-obovoid, about 2 mm long; *bristles* creamy-white. (*E. opacum* [Björnstr.] Fern.)

Bogs, particularly calcareous; circumboreal, south in North America to British Columbia, Montana, Manitoba, Ontario and Quebec; of scattered occurrence in the northern interior of British Columbia.


BRITISH COLUMBIA
Short-anthered cotton-grass
(Eriophorum brachyantherum)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W

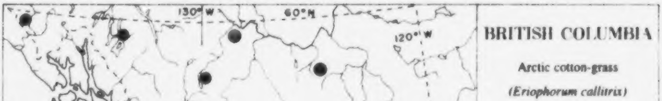


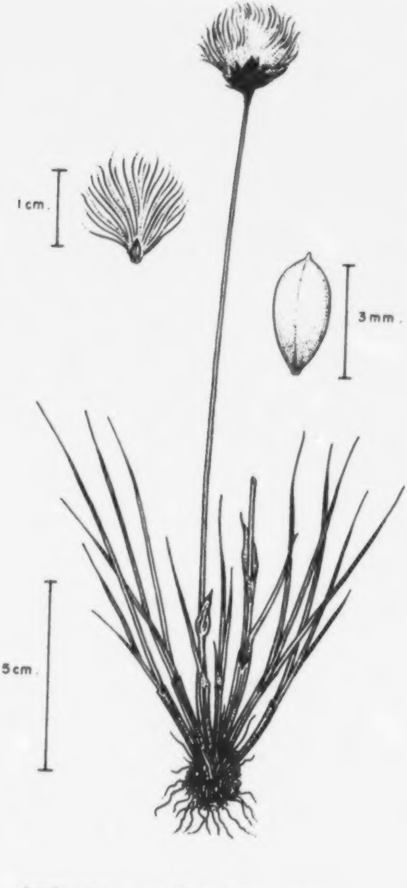
Short-anthered cotton-grass (*Eriophorum brachyantherum*)

***Eriophorum callitrix* Cham.** **Arctic cotton-grass**

Densely caespitose, forming tufts. *Culms* up to 20 cm tall, stiff, stout, curved. *Leaves* rather coarse, upper sheath near or below the middle of the culm, somewhat inflated, basal leaves numerous. *Spikelet* solitary; *sterile scale* ovate, acute, ribbed nearly to the margin, fertile, lanceolate, dark, translucent on the margin and at the tip; *achenes* ellipsoid-obovoid; *bristles* bright white.

Peaty soil; Alaska to Newfoundland, south to British Columbia, Alberta, Manitoba, Ontario and Quebec; known in British Columbia only from near the Yukon border.


BRITISH COLUMBIA
Arctic cotton-grass
(Eriophorum callitrix)
130° W
60° N
120° W
55° N
50° N
MILES
0
100
200
0
100
200
300
KILOMETRES

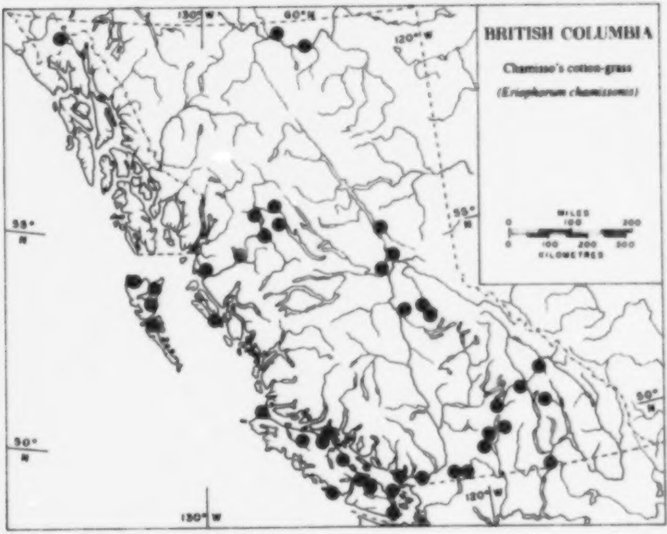


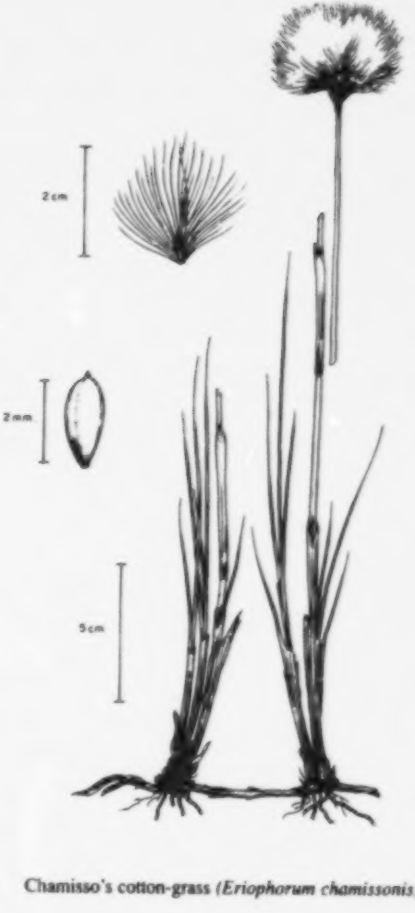
Arctic cotton-grass (*Eriophorum callitrix*)

Eriophorum chamissonis **C.A. Meyer** **Chamisso's cotton-grass**

Loosely stoloniferous. *Culms* up to 5 dm tall, slender. *Leaf blades* 1-2 mm wide, culms with 1 or 2 bladeless sheaths, the upper near the middle. *Spikelets* 1, foliaceous bract lacking; *sterile scales* few, obovate to triangular-ovate, ascending, blackish with pale margins; *achenes* oblong-ovate, 2.0-3.0 mm long, about one-third as wide, distinctly apiculate; *bristles* normally reddish-brown.

Bogs; Alaska to Labrador, south to Oregon, northern Wyoming, Minnesota and New Brunswick; northern Eurasia; found in British Columbia along the coast and scattered in the interior.


BRITISH COLUMBIA
Chamisso's cotton-grass
(Eriophorum chamissonis)
MILES
0 100 200
0 100 200 300
KILOMETRES
130° W
60° N
120° W
55° N
50° N
130° W
120° W

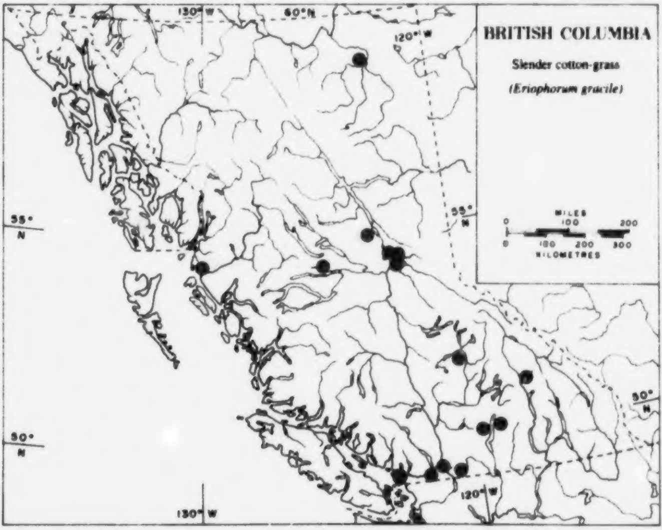


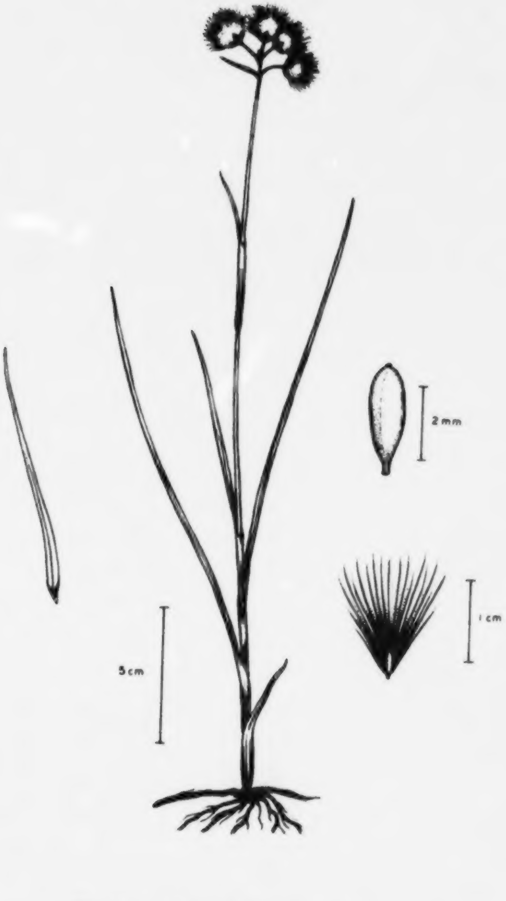
Chamisso's cotton-grass (*Eriophorum chamissonis*)

***Eriophorum gracile* Koch** **Slender cotton-grass**

Colonial from creeping rhizomes. *Culms* up to 6 dm tall, slender, sometimes spreading, arising singly. *Blades* 1-2 mm wide, channeled, uppermost culm leaf blade usually shorter than the well-developed sheath;*involucral bracts* several, only one leaf-like, shorter than the inflorescence. *Spikelets* 2-5, peduncles up to 3 cm long, minutely pubescent; *scales* blackish-green to greenish-brown, ovate, obtuse, midrib slender, often reaching the tip; *achenes* straw-coloured or light brown; *bristles* white, later sordid.

Peaty bogs and swamps at moderate to high elevations; circumboreal, south in western North America to central Californa, Idaho and Colorado; in British Columbia, known mostly from the interior.


BRITISH COLUMBIA
Slender cotton-grass
(Eriophorum gracile)
MILES
0 100 200
0 100 200 300
KILOMETRES
130° W
60° N
120° W
55° N
50° N
130° W
120° W
55° N
50° N

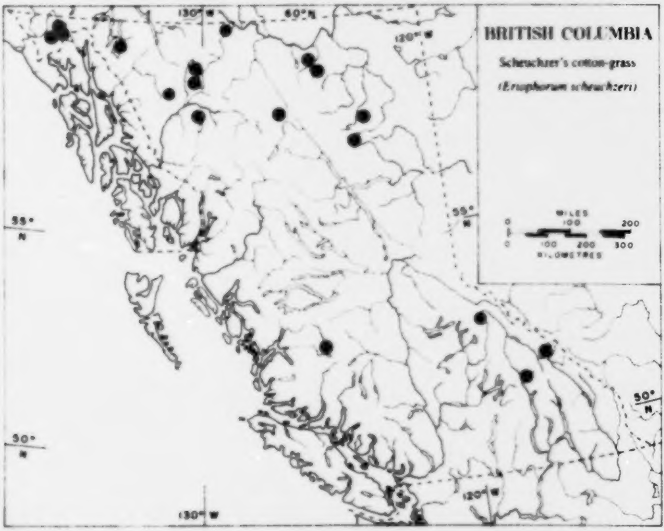


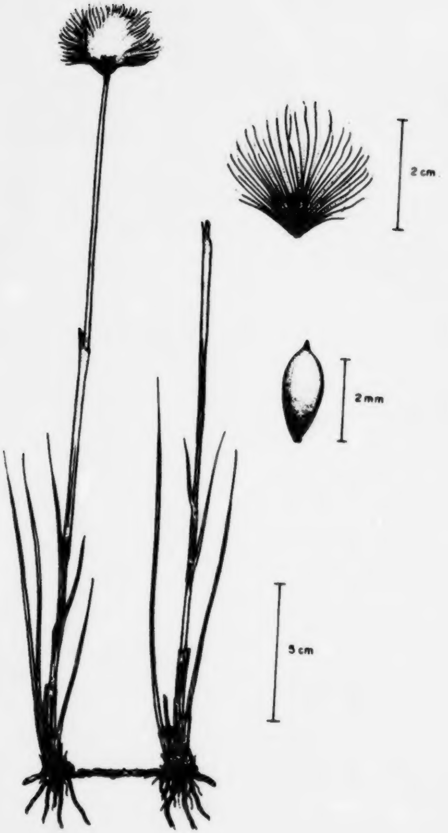
Slender cotton-grass *(Eriophorum gracile)*

Eriophorum scheuchzeri **Hoppe** **Scheuchzer's cotton-grass**

Rhizomes widely creeping. *Culms* up to 5 dm tall, solitary, or in loose tufts, thick, stiff, glabrous, uppermost sheath dark-tipped, bladeless, usually below the middle of the culm, basal leaves linear, about 1 mm wide. *Spikelet* solitary, terminal, subglobose; *sterile scales* dark grey to dull black, the basal lance-ovate, about 1 cm long, acute to acuminate, erect, translucent, margins narrowly hyaline, *fertile scales* lance-ovate, short-acuminate, 3-5 mm long, dull grey, margins narrowly hyaline, often hyaline at the base; *achenes* dull-brown, ellipsoid-obovate, base of the style forming a minute apiculation; *bristles* silky white to faintly rusty.

Cold, marshy ground, usually alpine; circumpolar in the low Arctic, south in North America to British Columbia, southern Alberta, Montana, Utah, Colorado, Manitoba, Quebec and Newfoundland; rare in British Columbia except in the extreme north.


BRITISH COLUMBIA
Scheuchzer's cotton-grass
(Eriophorum scheuchzeri)
130° W
60° N
120° W
55° N
50° N
MILES
0
100
200
0
100
200
300
KILOMETRES



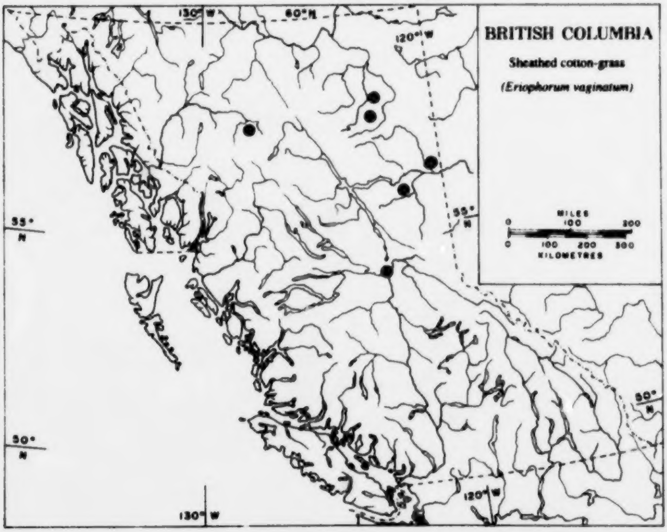
Scheuchzer's cotton-grass *(Eriophorum scheuchzeri)*

***Eriophorum vaginatum* L.** **Sheathed cotton-grass**

Perennial in dense tufts forming quite large tussocks, rhizomes lacking. Culms up to 4 dm tall, scabrous at the tips, basal sheaths long, persisting, pale rusty brown, papery. Basal leaves linear, 0.6-1.3 mm wide, stiffly erect or curved-ascending, sheaths on culms 2 or 3, mostly 2-3 cm long, the lower one usually ascending-spreading. Spikes solitary at the tips of the culms, globose; sterile and lower fruiting scales strongly deflexed, lead grey, dull, ovate-acuminate, uniformly scarious and translucent; bristles copious, silvery white, slightly darker towards the base; achenes pale brown, broadly obovoid, about 2 mm long, flattened-trigonous.

Tundra and wet peaty soil; circumboreal, south in North America to British Columbia, Alberta, Manitoba, northern Indiana and Pennsylvania. In British Columbia, found in the northern interior, particularly east of the Rocky Mountains.

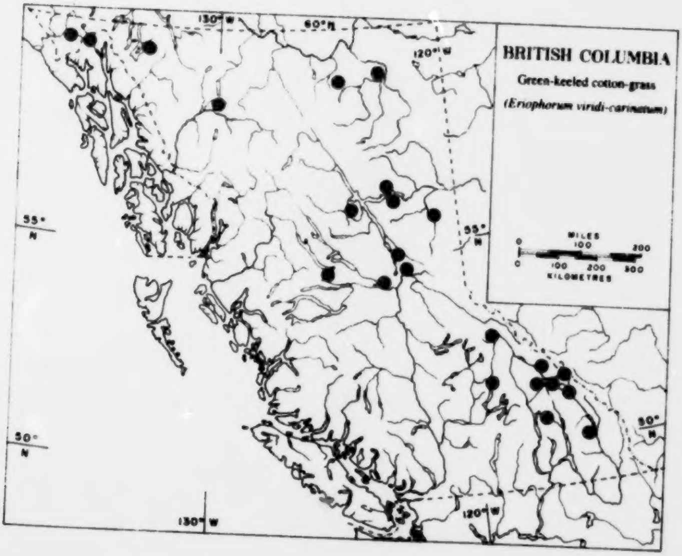
(Not illustrated)

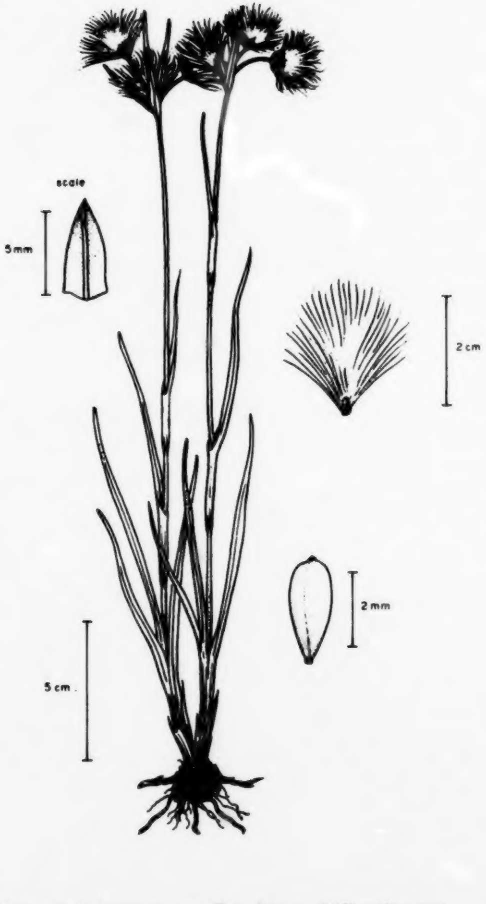

BRITISH COLUMBIA
Sheathed cotton-grass
(Eriophorum vaginatum)
MILES
0 100 200
0 100 200 300
KILOMETRES
130°W
60°N
120°W
55°N
55°N
50°N
50°N
130°W
120°W

***Eriophorum viridi-carinatum* (Engelm.) Fern Green-keeled cotton-grass**

Tufted, sometimes culms solitary. *Culms* up to 10 dm tall, glabrous, trigonous. *Leaves* 2-5 mm broad, flat, elongate, tips narrow, involute. *Involucral bracts* 2 or 3, leaf-like, the longest equalling or longer than the inflorescence. *Spikelets* 3 to many, most on slender, simple or forked, minutely hairy peduncles up to 6 cm long; *scales* ovate-lanceolate, usually narrowed to a blunt tip, the prominent pale or green midrib extending quite to the tip; *bristles* creamy to buff; *achenes* narrowly obovate, about 3 mm long.

Wet, particularly peaty, places; Alaska to Newfoundland, south to British Columbia, northern Idaho, Colorado, Michigan, Ohio and New York; collected, in British Columbia, in the extreme north, south along the Rocky Mountains, and in the northeast.


BRITISH COLUMBIA
Green-keeled cotton-grass
(Eriophorum viridi-carinatum)
130° W
60° N
120° W
55° N
50° N
MILES
0
100
200
0
100
200
300
KILOMETRES


scale
5mm
2 cm
2 mm
5 cm.

Green-keeled cotton-grass (*Eriophorum viridi-carinatum*)

KOBRESIA Willd. Kobresia

Densely tufted, grass-like, perennial sedges similar to *Carex*. Spikelets unisexual and one-flowered or with two flowers (one staminate and one pistillate) in short spikes aggregated into elongated heads; scales of the spikelets 1-flowered; stamens 3; perianth segments and bristles lacking; stigmas 2 or 3, linear and papillate; achenes sessile, plump, obtusely trigonous, enclosed in a membranous, partially open perigynium.

A genus of about 50 species found only in the north temperate regions.

KEY TO KOBRESIA

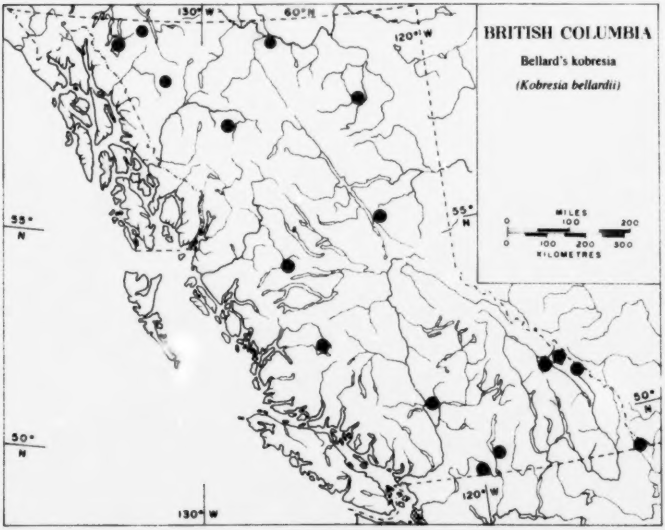
Spikes solitary, 2-3 mm in diameter; achenes shorter than the perigynia . . . . *K. bellardii*

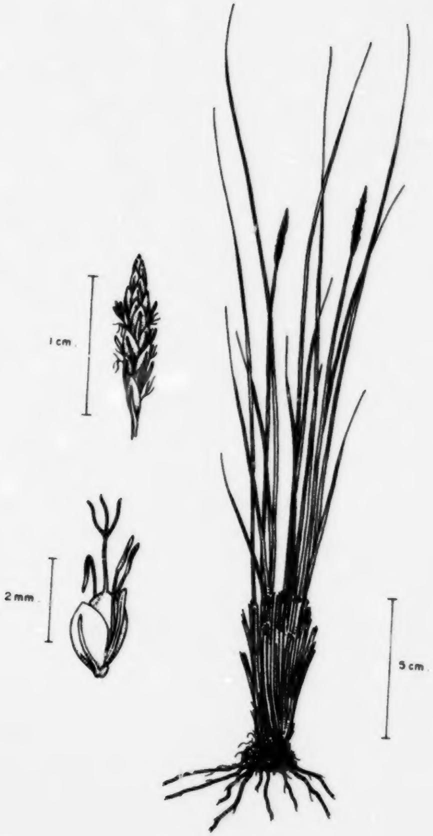
Spikes several aggregated into a head 3-8 mm wide; achenes exceeding the perigynia . . . . *K. simpliciuscula*

1. *Kobresia bellardii* (All.) Degland. Bellard's kobresia

Densely caespitose in compact clumps. *Culms* usually not more than about 2 dm tall, erect, slender, wiry, glabrous, equalling or exceeding the leaves. *Leaves* several on lower one-fifth of the culm, filiform, 0.2-0.5 mm wide, slightly roughened near the tip. *Spikes* solitary, 1-3 cm long, the terminal spikelets with several staminate flowers, the lateral spikelets each with one staminate and one pistillate flower; *scales* obtuse to cuspidate, 2-3 mm long, brown, shining, whitish hyaline above, the midrib well-marked below; *perigynia* 3.0-3.5 mm long, light brown, closely enveloping the achenes, the margins free almost or fully to the base; *achenes* 2.0-2.8 mm long, shining brown with greenish angles, short-stipitate, short-beaked; *stigmas* 3. (*K. myosuroides* [Vill.] Fiori & Paol.)

Moist, sometimes fairly dry, meadows and tundra; circumboreal, south in western North America along the Rocky Mountains to Oregon, Colorado, Utah and California; known in British Columbia from scattered locations throughout interior.


BRITISH COLUMBIA
Bellard's kobresia
(Kobresia bellardii)
MILES
0 100 200
0 100 200 300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W

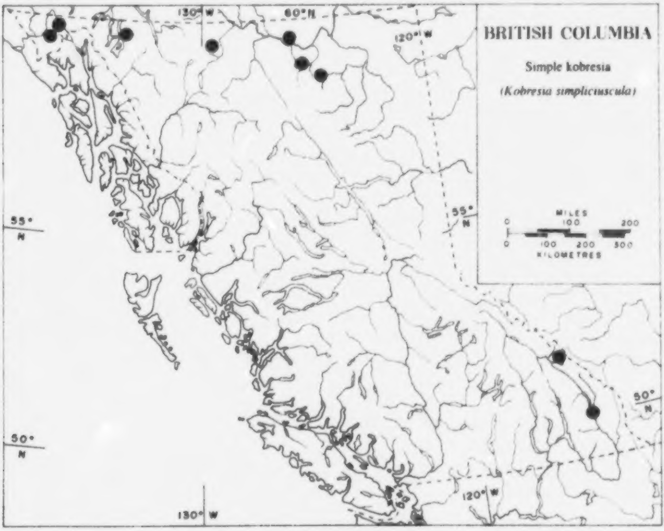


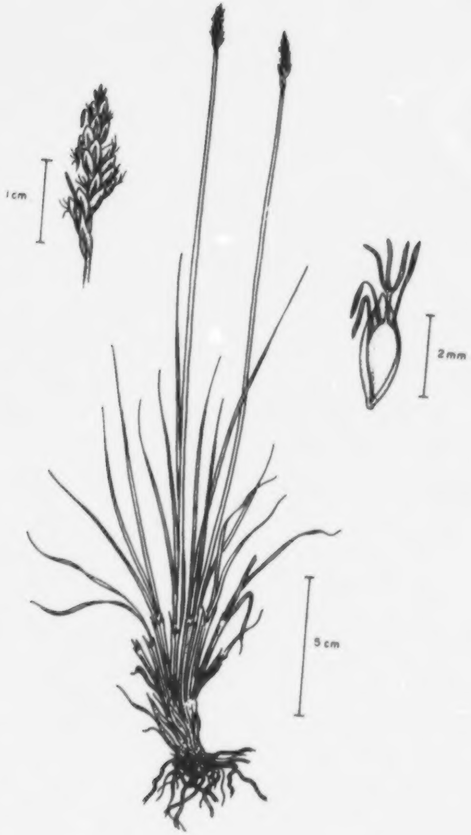
Bellard's kobresia *(Kobresia bellardii)*

2. *Kobresia simpliciuscula* (Wahl.) Mack. Simple kobresia

Densely caespitose, with short rhizomes. *Culms* up to 3.5 dm tall, stiff, wiry, erect, exceeding the leaves. *Leaves* numerous, filiform, 0.2-0.5 mm wide, erect or curved-ascending. *Inflorescence* compound, 1.0-3.5 cm long, lanceolate to oblong; spikelets 3-10, appressed, approximate or the lowermost somewhat remote and ascending-spreading; *spikelets* linear-oblong, 3-8 mm long, sessile or essentially so, terminal spike staminate, the lateral staminate above or pistillate and 1-flowered; *scales* ovate, obtuse to slightly cuspidate, chestnut-brown, keel scabrous; *perigynia* narrowly oblong-elliptic, about 2.75 mm long, chartaceous, closely enveloping the achene but the margins free to the base; *achenes* linear-oblong, 3 mm long, brownish, slightly exceeding the perigynia; *stigmas* 3.

Marshy areas, bogs and rocky slopes, particularly in calcareous soils, circumboreal, in western North America extending south to British Columbia, and irregularly to Idaho, Oregon and Colorado; collected in the northern parts of British Columbia and in the Rocky Mountain Trench.


BRITISH COLUMBIA
Simple kobresia
(Kobresia simpliciuscula)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
130° W
120° W



Simple kobresia (*Kobresia simpliciuscula*)

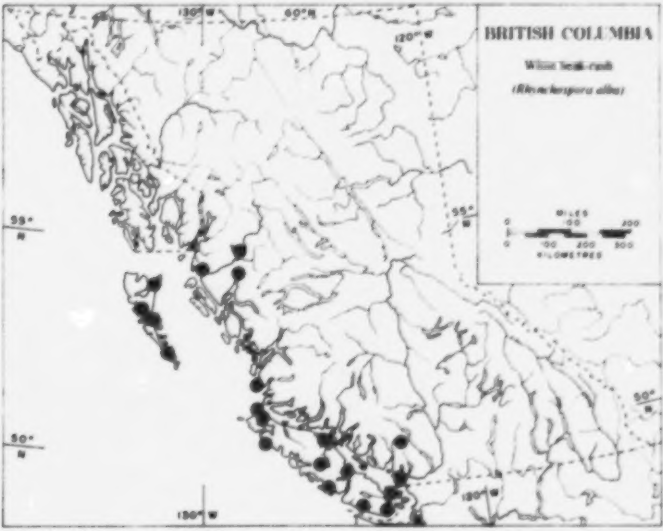
RHYNCHOSPORA Vahl Beak-rush

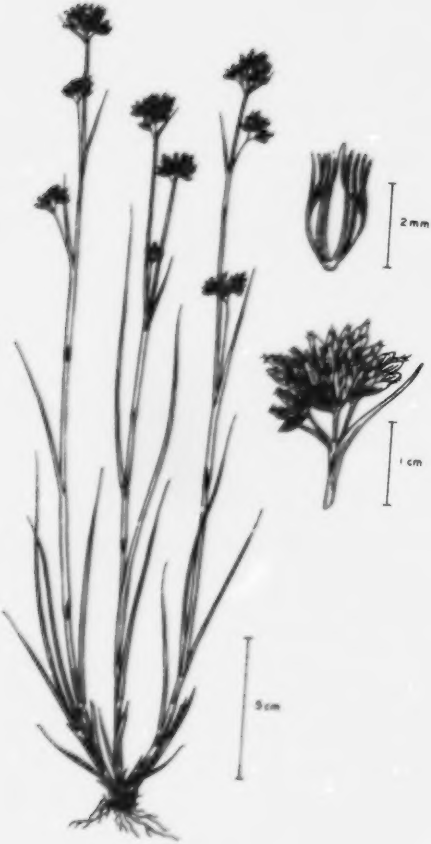
Perennial (ours) herbs. Culms slender, more or less triangular, solid. Leaves narrowly linear to filiform, sheaths closed. Inflorescences terminal, often also axillary, cymes. Spikelets subglobose to narrowly ovoid, flower 1 to several; scales spirally arranged, the lower sterile, the upper larger, each subtending a single flower; flowers perfect or the upper staminate; stamens usually 3; perianth represented by bristles, commonly 6, but varying from 0-20, in length from short to exceeding the achenes; achenes flat or lenticular; stigmas 2, the persistent style base forming a small or large tubercle.

A genus of about 200 species of both hemispheres, chiefly in the warm regions.

1. *Rhynchospora alba* (L.) Vahl. White beak-rush

Caespitose, rhizomes short. *Culms* very slender, up to 7 dm tall, triangular leafy, usually exceeding the leaves. Cauline *leaves* several, the upper up to 1 mm wide, slender, elongate, channeled or triquetrous to





White beak-rush (*Rhynchospora alba*)

thick and flat, the lower being reduced, sometimes to scales. *Inflorescence* of 1-3, compact, globular, head-like clusters, the terminal largest, subtended by a small bract, the lateral (when present) peduncled, arising from within the sheaths of upper leaves; *scales* pale brown, often with a whitish or pinkish tinge; *stamens* usually 2; *bristles* 10-12, well-developed, minutely retrorsely barbellate, exceeding the body, and sometimes the tubercle of the achene; *achenes* lenticular, flattened-pyriform, 1.5-2.0 mm long, contracted at the base, brownish-green at maturity, faintly patterned with transverse brown lines; *tubercle* narrow, elongate, one-half to two-thirds as long as the body of the achene.

Sphagnum bogs and wet, particularly peaty, areas; circumboreal, in western North America extending south to central California, mostly west of the Rocky Mountains; in British Columbia known only from west of the coastal mountains.

SCIRPUS L. Bulrush; Clubrush

Annual or perennial herbs of water or wet situations. Culms triangular or terete, usually solid. Leaves with grass-like blade and closed sheath, sometimes much reduced or absent and represented by bladeless sheaths only. Inflorescence of 1 to many spikelets in a variety of basically cymose arrangements; bracts none, or solitary and appearing as a continuation of the culm, or several and leaf-like, sometimes small and scale-like; scales of the spikelets spirally arranged, scarious; flowers perfect, each in the axil of a scale; perianth of 1-6 (sometimes a few more, or none) bristles; stamens 2 or 3; stigmas 2 or 3; achenes various, lenticular, plano-convex, compressed-trigonous, or trigonous, tubercle absent, short, persistent style-base present in some cases.

A cosmopolitan genus of some 200 species.

KEY TO SCIRPUS

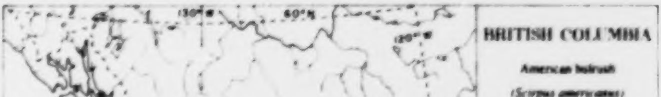
1. Involucre of leaf-like bracts; stem leaves usually well developed.
   2. Stoloniferous perennials.

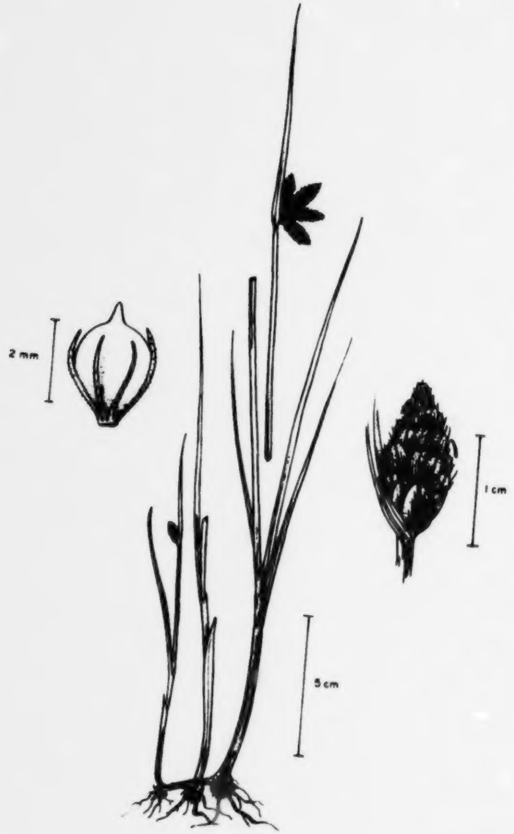
3. Spikelets large; stolons bearing tubers.
4. Stigmas 2; leaves normally not over 6 mm broad; secondary rootlets not conspicuous .... *S. maritimus*
4. Stigmas 3; leaves commonly 8-10 mm broad; secondary rootlets conspicuous .... *S. fluviatilis*
3. Spikelets small; stolons without tubers; stigmas 2 ... *S. sylvaticus*
2. Tufted or fibrous-rooted perennials.
5. Bristles shorter than or barely equalling the scales, slightly if at all, surpassing the mature achenes .... *S. pallidus*
5. Bristles much longer than the scales and mature achenes .... *S.cyperinus*
1. Involucral bracts not leaf-like; stem leaves usually greatly reduced.
6. Spikelets 1, terminal.
7. Culms terete, smooth; achenes compressed; bristles, if present, terete, fragile.
8. Awn of the outermost scale of the spikelet little, if at all, exserted; spikelet ovate; bristles lacking; plants not densely tufted .... *S. pumilus*
8. Awn of the outmost scale of the spikelet blunt, at least 1 mm long; spikelet lanceolate; bristles present; plants densely tufted .... *S. cespitosus*
7. Culms triangular, scabrous; achenes 3-angled; bristles much elongate, flat, conspicuous .... *S. hudsonianus*
6. Spikelets 1-many, apparently lateral, the involucral bract continuing the culm.
9. Fibrous-rooted, low annuals; culms seldom equalling 1 dm, filiform; bristles usually lacking; coastal species .... *S. cernuus*
9. Perennials; culms usually tall, stout; bristles usually present; not limited to coastal areas.
10. Culms slender; spikelets few, sessile or rarely short-pedunculate.
11. Achene not at all apiculate, the coat reticulate; leaves stiffly erect; plants of alkaline sites .... *S. nevadensis*
11. Achene apiculate, the coat not reticulate; leaves somewhat lax and spreading.
12. Spikelets 1; culms terete; leaves many, equalling the culm; culm and leaves generally floating *S. subterminalis*
12. Spikelets 2 or more; culms sharply 3-angled; leaves fewer, not equalling the culm; culm and leaves emersed .... *S. americanus*
10. Culms stout; spikelets many, pedunculate or rarely capitate .... *S. lacustris*

Scirpus americanus Pers. **American bulrush**

Perennial with long rootstocks. *Culms* erect, stiff, up to 1 mm tall, sharply triangular. *Leaves* 1-3, narrowly linear, keeled, shorter than the culm. *Spikelets* 1-7, capitate in a cluster; *involucral-leaf* 3-10 cm long, slender; *scales* broadly ovate, brown, often emarginate or sharply 2-cleft at the tip, the midvein extended into a bristle-like awn as much as 2 mm long, margins scarious; *bristles* 2-6, downwardly barbed, equalling the achene or shorter; *stamens* 3; *achene* obovate, plano-convex, smooth, dark brown, mucronate.

Wet places; widespread throughout southern Canada and the United States, South America, Europe, New Zealand and south Australia; generally distributed in the southern half of British Columbia.


BRITISH COLUMBIA
American bulrush
(Scirpus americanus)
MILES
0 100 200
0 100 200 300
KILOMETRES
130° W
60° N
120° W
55° N
50° N
130° W
120° W
55° N
50° N

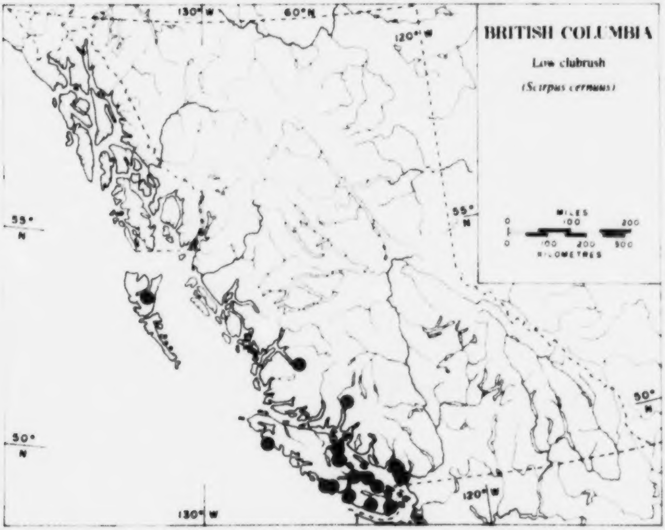


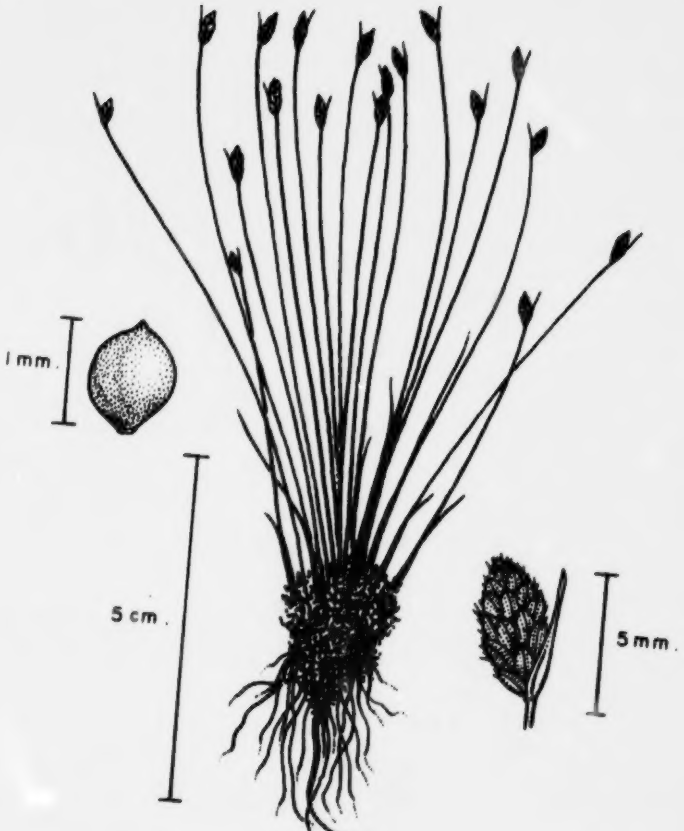
American bulrush (*Scirpus americanus*)

***Scirpus cernuus* Vahl** **Low clubrush**

Tufted annual. Roots fibrous. *Culms* tufted, nearly filiform, up to 25 cm long. *Upper sheath* bearing a filiform leaf up to 20 mm long, or merely acuminate. *Spikelet* solitary, 2-5 mm long, ovoid, few-flowered, single *involucral bract* various; *scales* about 2 mm long, broadly ovate, pale to dark brown, obtuse or acutish, concave, scarcely keeled; *bristles* lacking; *achenes* trigonous, smooth, brown, usually less than 1 mm long.

Damp to wet ground, often brackish marshes along the coast; southern British Columbia to northern Mexico, scattered in Europe, and in the Southern Hemisphere; rare in British Columbia, a coastal species found as far north as the Queen Charlotte Islands.


BRITISH COLUMBIA
Low clubrush
(Scirpus cernuus)
130° W
60° N
120° W
55° N
50° N
MILES
0
100
200
KILOMETRES
100
200
300

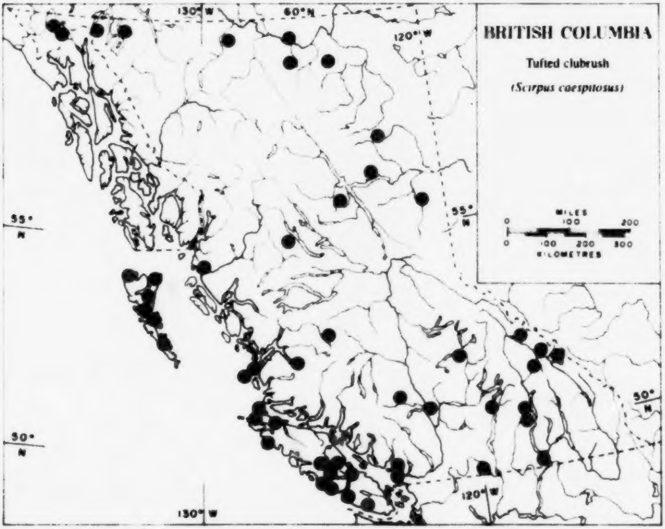


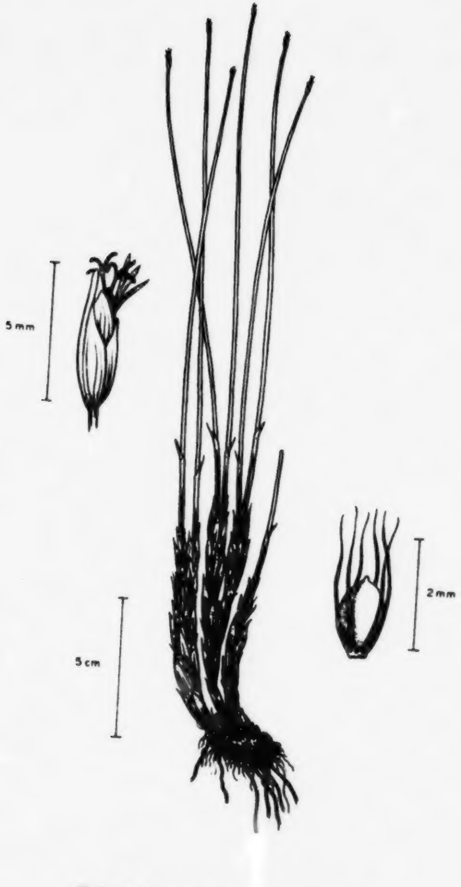
Low clubrush *(Scirpus cernuus)*

***Scirpus caespitosus* L.** **Tufted clubrush**

Perennial, forming dense tufts. *Culms* terete, up to 4 dm tall, very smooth, clothed with a number of light brown scale leaves at the base; *uppermost sheath* with a short, blunt blade about 1 cm long. *Spikelet* 1, terminal, ovoid, 4-5 mm long, 2- to 4-flowered; *bract* ovate, shorter than to equalling the spikelet, quickly deciduous, the midvein prolonged into a stout, blunt-tipped awn about equalling the spikelet; *scales* ovate, chestnut, acute to short-mucronate; *achenes* trigonous, brown, narrowly obovoid, 1.5-2.0 mm long, apiculate; *bristles* 6, white or brownish at the tip, delicate, usually exceeding the achene but not the scale.

Tundra, alpine bogs and other wet places; circumboreal; south in North America to Oregon, Idaho, Utah, Montana, Tennessee and North Carolina; widely spread throughout British Columbia in suitable habitats.


BRITISH COLUMBIA
Tufted clubrush
(Scirpus caespitosus)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
50° N
120° W
130° W

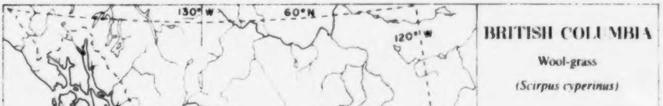


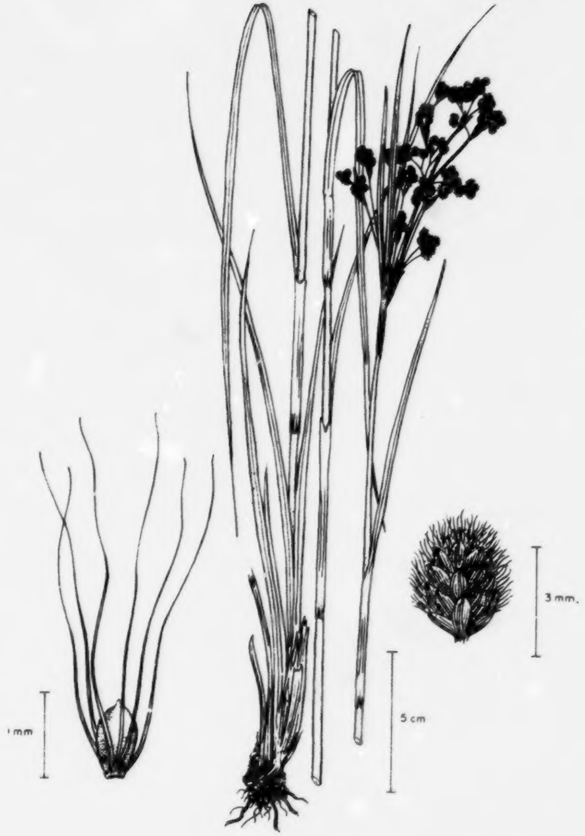
Tufted clubrush (*Scirpus caespitosus*)

Scirpus cyperinus **(L.) Kunth** **Wool-grass**

Perennial. Rhizomes lacking. *Culms* in clumps, up to 2 dm tall, leafy. *Leaves* flat, grass-like, up to 6 mm wide. *Spikelets* up to 8 mm long, very numerous in a compound, terminal inflorescence, commonly short-pedunculate although the inflorescence sometimes condensed; *bracts* several, sheathless, leaf-like, unequal, blackish based, the longest usually at least 1 dm long; *scales* numerous, usually less than 2 mm long, elliptic or oval, red-brown-striate on a pale or often dark background; *bristles* 6, tawny, flexuous, longer than the scales, especially in fruit; *achenes* pale yellowish, less than 1 mm long, trigonous. (*S. atrocinctus* Fern.)

Bogs, marshes and wet meadows; across southern Canada, in the west perhaps south to Washington, in the east south to Florida; known in British Columbia from the lower Fraser Valley, the Queen Charlotte Islands, Revelstoke and Creston.


BRITISH COLUMBIA
Wool-grass
(Scirpus cyperinus)
MILES
0
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W

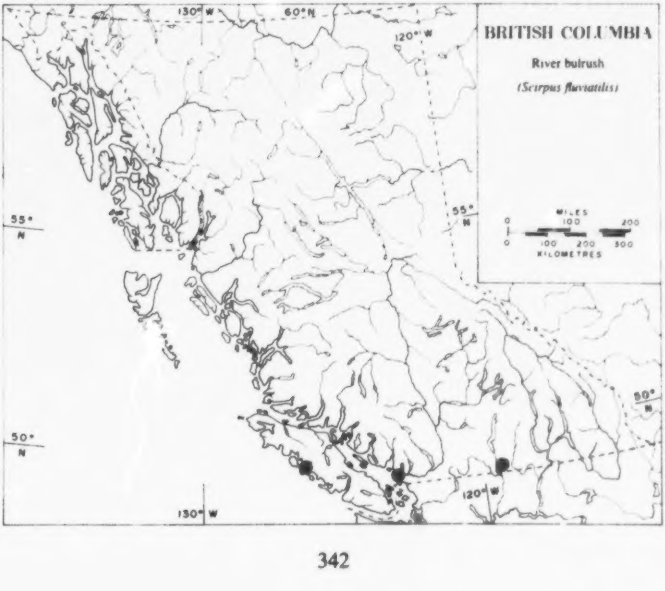


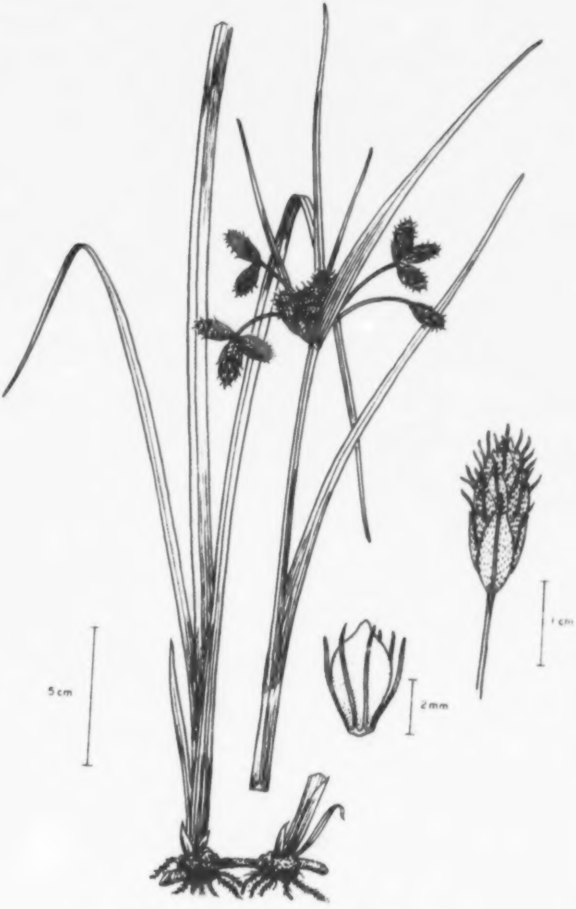
Wool-grass *(Scirpus cyperinus)*

***Scirpus fluviatilis* (Torr.) Gray** **River bulrush**

Perennial with a thick rhizome. *Culms* stout, 3-angled, up to 15 dm tall. *Leaves* several, flat, grass-like, up to 15 mm wide. *Spikelets* ovoid to cigar-shaped, some sessile, others in small clusters at the ends of peduncles up to 15 cm long; *bracts* 3-5, elongate, very unequal, some leaf-like and much surpassing the inflorescence; *scales* acute or acuminate, the midvein prolonged into an awn about 2 mm long; *achenes* trigonous, dull, gray-brown, 4-5 mm long, conspicuously beaked; *bristles* 6, stiff, retrorsely barbed, often equalling the achene but variable.

Often forming large colonies in quiet waters of lakes or streams, fresh or brackish marshes; widespread in temperate North America; known in British Columbia from Osoyoos Lake, Vancouver, and the west coast of Vancouver Island.


130° W
60° N
120° W
BRITISH COLUMBIA
River bulrush
(Scirpus fluviatilis)
55° N
MILES
0 100 200
0 100 200 300
KILOMETRES
50° N
120° W
130° W



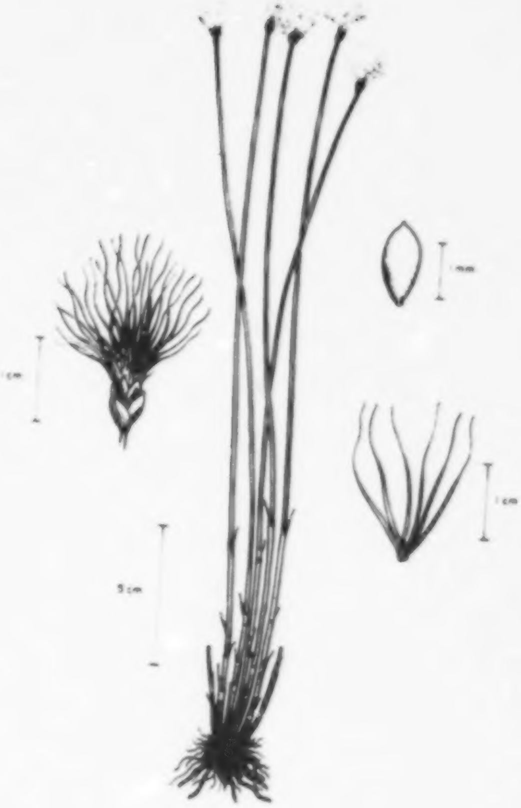
River bulrush *(Scirpus fluviatilis)*

Scirpus hudsonianus (Michx.) Fern. **Hudson's Bay clubrush**

Perennial from short rhizomes. *Culms* more or less clustered, up to 4 dm tall, sharply 3-angled, with several scale leaves at the base. Upper leaves (1 or 2) with shrot blades 1-2 cm long. *Spikelet* 1, terminal, ovoid, 5-7 mm long; *bract* shorter than to equalling the spikelet, soon deciduous, midvein stout, prolonged into a blunt-tipped awn; *scales* obtuse, ovate-lanceolate, chestnut; *achenes* trigonous, purple-brown, narrowly obovoid, about 1.5 mm long, apiculate; *bristles* 6, white, up to 2.5 mm long, flat, very thin, much exceeding the scales.

Sphagnum bogs and other wet places; circumboreal; extending to southern British Columbia, Montana, Saskatchewan, Michigan and Connecticut; in British Columbia, known in the central part of the province as far south as Enderby.

BRITISH COLUMBIA
Hudson's Bay clubrush
(Scirpus hudsonianus)
130° W
60° N
120° W
55° N
50° N
MILES
KILOMETRES

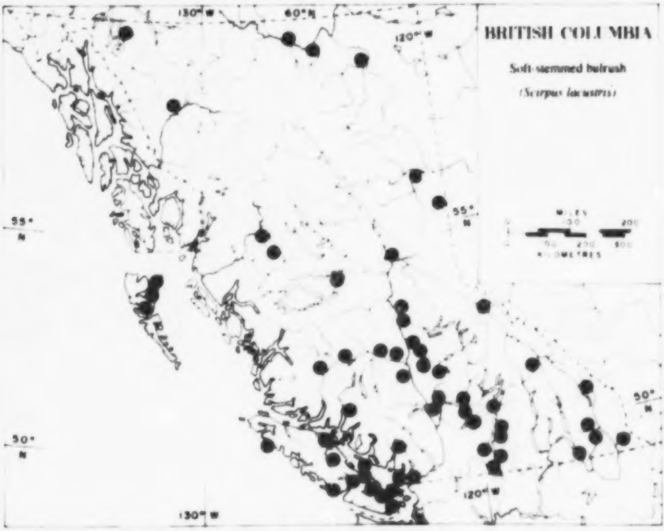

1 cm
1 mm
1 cm
5 cm

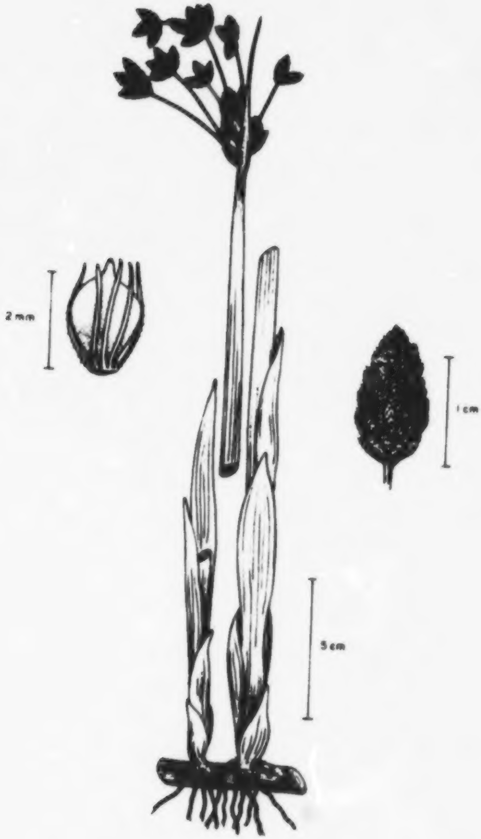
Hudson's Bay clubrush *(Scirpus hudsonianus)*

Scirpus lacustris L. **Soft-stemmed bulrush; Tule**

Perennial from stout rhizomes. *Culms* terete, stout, up to 3 m tall. *Leaves* few, borne towards the base of the culm, sheath well developed, blade lacking or poorly developed; bract 1, up to 10 cm long, appearing as a prolongation of the culm, usually green; subsiduary bracts small and inconspicuous; *spikelets* several to many, dull gray-brown, in an open or compact, branched inflorescence, all or nearly all of the spikelets sessile at the ends of the rather stiff branches of the inflorescence; *scales* broadly ovate, about 4 mm long, the margins often somewhat lacerate, largely hyaline-scarious, midrib firm, scabrous, commonly exserted as a short awn-tip; *pistil* 2-carpellate, occasionally 3-carpellate; bristles fragile, retrorsely barbed, usually equalling or somewhat exceeding the achene; *achenes* plano-convex or unequally trigonous about 2 mm long, apiculate, concealed by the scales even at maturity. (*S. acutus* Muhl., *S. validus* Vahl, *S. heterochaetus* Chase)

Swamps, shores and shallow water; widespread in North America; Eurasia; common throughout British Columbia.


BRITISH COLUMBIA
Soft-stemmed bulrush
(Scirpus lacustris)
MILES
100
200
0
100
200
300
KILOMETRES
130° W
60° N
120° W
55° N
55° N
50° N
50° N
120° W
130° W

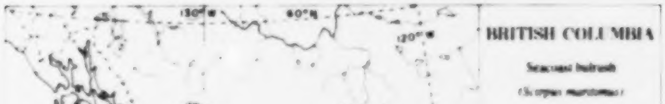


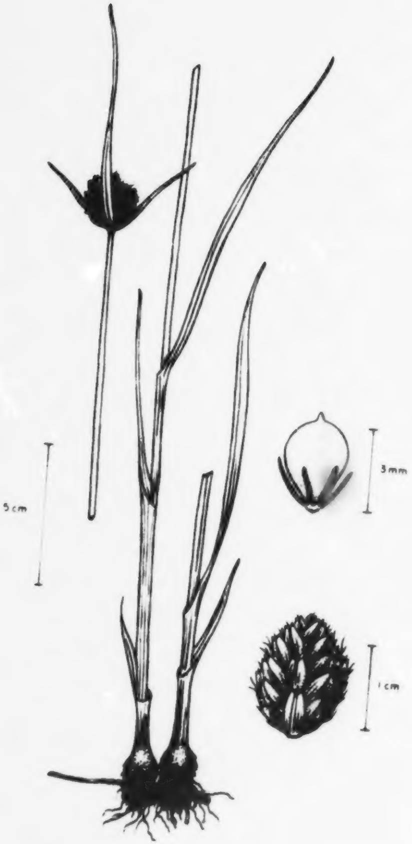
Soft-stemmed bulrush (*Scirpus lacustris*)

***Scirpus maritimus* L.** **Seacoast bulrush**

Perennial. Rhizomes stout, tuber-bearing. *Culms* up to 15 dm tall, 3-angled. *Leaves* several, usually well developed, elongated, flat or nearly so, up to 1 cm wide. *Spikelets* 1-many, some or all sessile in a compact terminal cluster, or the principal cluster equalled or somewhat surpassed by one or more secondary clusters on short peduncles; *bracts* 2-5, very unequal, some more or less elongate, the longest usually exceeding the inflorescence and much longer than the others; *scales* thin-margined, puberulent, notched at the summit, the midvein prolonged into a short awn; *bristles* 2-6, often poorly developed or obsolete, up to about half as long as the achene; *achenes* about 3 mm long, brown to black, lenticular, apiculate; *stigmas* 2.

Fresh, saline or alkali swamps and marshes; widespread in the Northern Hemisphere, particularly on the seacoasts; known throughout southern British Columbia.



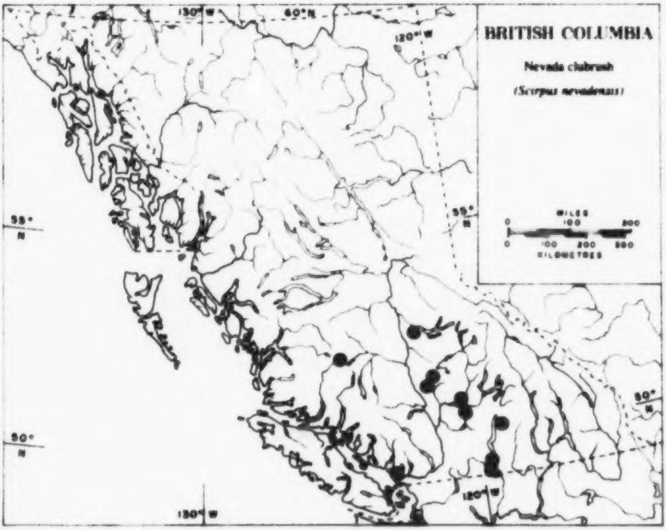


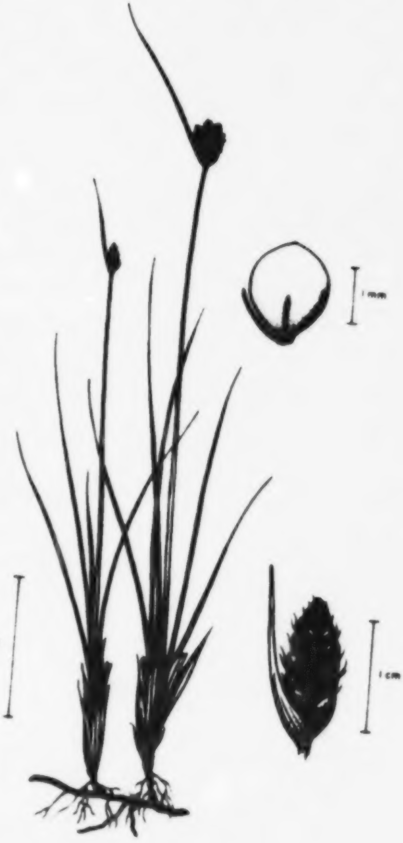
Seacoast bulrush *(Scirpus maritimus)*

***Scirpus nevadensis* S. Wats.** **Nevada clubrush**

Perennial. Rootstock stout, scaly. *Culms* up to 4 dm tall, stout, smooth, conspicuously grooved. *Leaves* numerous, stiff, linear, convolute, 1-2 mm broad, pointed, often equalling but rarely exceeding the culm. *Spikelets* 2-8, sessile, capitate, up to 16 mm long; *involucral bract* usually 1, 1-7 cm long, similar to the leaves; *scales* ovate, obtuse to acutish, chestnut-brown, shining; *achene* 2 mm long, broadly ovate, plano-convex; *bristles* 1-3, much shorter than the achene; *stigmas* 2.

Wet situations, mostly in alkaline, deserts and semideserts; southern British Columbia to California, east to Saskatchewan, North Dakota, Wyoming and Utah; Argentina; known in British Columbia from the mouth of the Fraser River and the southern interior.


130° W
60° N
120° W
BRITISH COLUMBIA
Nevada clubrush
(Scirpus nevadensis)
55° N
55° N
MILES
0 100 200
0 100 200 300
KILOMETRES
50° N
50° N
120° W
130° W

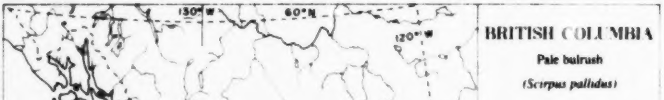


Nevada clubrush (*Scirpus nevadensis*)

***Scirpus pallidus* (Britt.) Fern.** **Pale bulrush**

Perennial. *Rootstock* short, stout. *Culms* up to 15 dm tall, clearly triangular in cross section, leafy. *Leaves* several, flat, grass-like, about 2 cm broad, several decimeters long, nodulose; sheaths pale or greenish, not reddish-tinged, nodulose. *Spikelets* very numerous, sessile in dense, often compound, clusters; involucral bracts several, leaf-like, the longest commonly 1 dm long; *scales* 2-3 mm long, pale brown becoming darker in age, the midrib extended as a short awn; *achenes* about 1 mm long, pale, unequally triangular in cross section; *bristles* usually 6, shorter than, or sometimes equalling, the achene, minutely downwardly barbed above the middle; *stigmas* 3. (*S. atrovirens* western Am. auth.)

Meadows and swampy ground; southeastern British Columbia, northeastern Oregon, Utah, New Mexico, and Texas, east to James Bay, Ontario, Minesota and Missouri; known in British Columbia from the East Kootenays, the Columbia Valley and Vancouver.

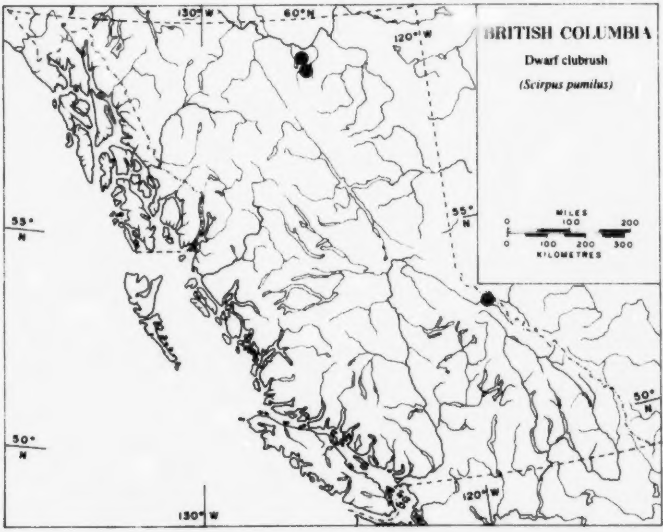

130° W
60° N
120° W
BRITISH COLUMBIA
Pale bulrush
(Scirpus pallidus)
55° N
55° N
MILES
0 100 200
0 100 200 300
KILOMETRES
50° N
50° N
120° W
130° W

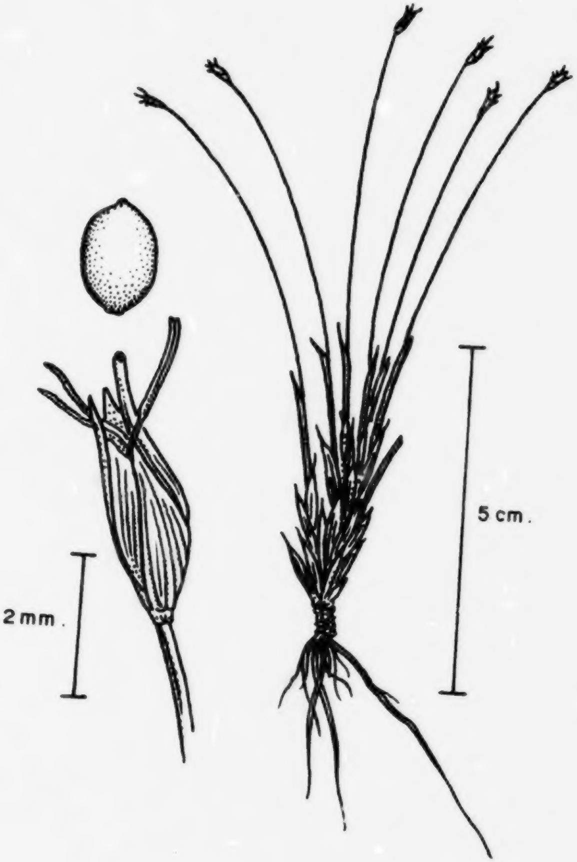
(Not illustrated)

Scirpus pumilus Vahl **Dwarf clubrush**

Perennial, densely tufted. *Culms* up to 12 cm tall, slender, sheathed at the base, upper 1-3 sheaths with a blade up to 3 cm long. *Spikelet* 1, terminal, few-flowered, rounded-ovoid; *bractless*; *scales* ovate or ovate-oblong, acute or obtusish, brown, indistinctly nerved, margins and midrib green; *achene* 3-angled, brown or nearly black, 1.0-1.5 mm long, smooth; *bristles* lacking; *stigmas* 3.

Wet places in alpine areas; interruptedly circumboreal; in western North Aermica known locally in the Rocky Mountains as far south as Colorado and California; in British Columbia, found at Muncho Lake and on the Fraser River near the Alberta border.


130°W
60°N
120°W
BRITISH COLUMBIA
Dwarf clubrush
(Scirpus pumilus)
MILES
0
100
200
0
100
200
300
KILOMETRES
55° N
55° N
50° N
50° N
130°W
120°W

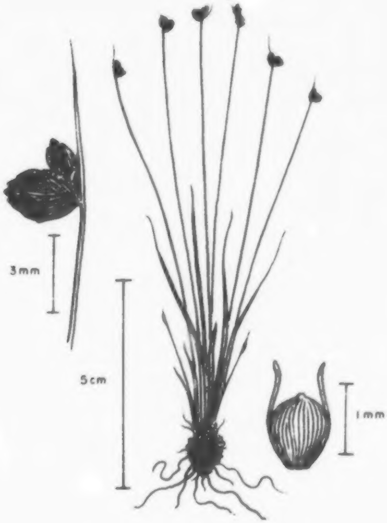


Dwarf clubrush (*Scirpus pumilus*)

***Scirpus setaceus* L.** **Bristly clubrush**

Slender, tufted perhaps annual. Culms filiform, terete, up to 20 cm tall. Leaves 1 or 2, usually shorter than the culms, filiform, channelled. Bract green, more or less terete, much exceeding the inflorescence. Spikelets small, 2 or 3, void, up to 5 mm long; scales about 1 mm long, ovate, mucronate, purple-brown, midrib green, margins hyaline; stamens 2; stigmas 3, style-base persistent; achenes 3-angled, obovoid, dark brown, somewhat shiny, longitudinally ribbed.

Damp places such as marshy meadows, or in the open in damp sand or gravel, particularly by lakes; Eurasia, North and South Africa; in British Columbia, known only from near Victoria where it was introduced and is now probably extinct.

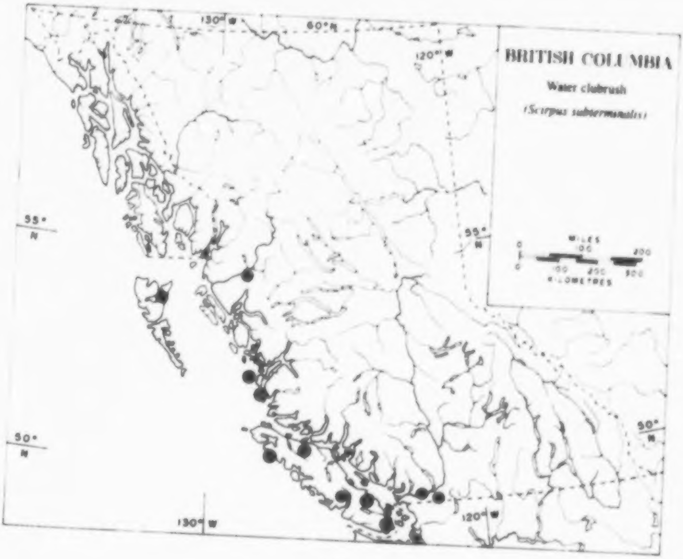


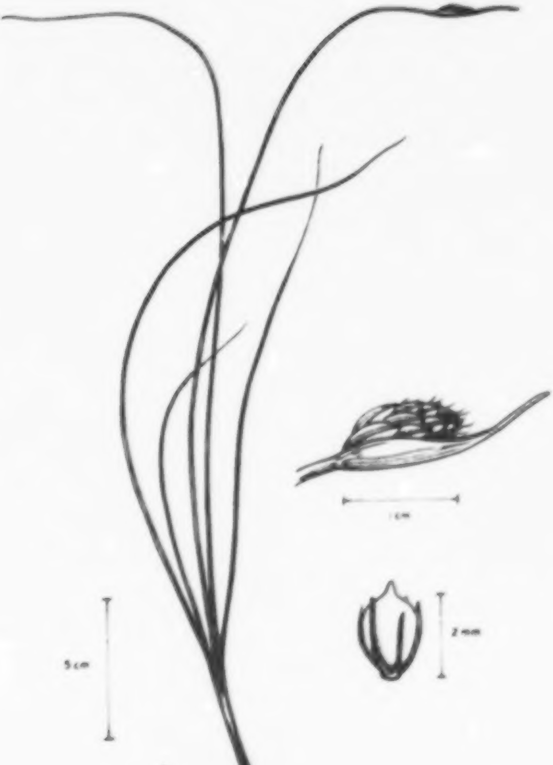
Bristly clubrush *(Scirpus setaceus)*

***Scirpus subterminalis* Torr.** **Water clubrush**

Perennial with rhizomes. *Culms* slender, soft, terete, nodulose, up to 1 m long. *Leaves* elongate, up to 50 cm long, arising from near the base, usually not more than 1 mm wide, both culms and leaves floating rather than emergent. *Spikelet* 1, terminal, light brown, bract erect, up to 6 cm long, appearing as a continuation of the stem; *scales* ovate-lanceolate, 4-6 mm long, membranous, light brown, midrib somewhat firmer, sometimes slightly prolonged as an awn; *bristles* mostly about 6, downwardly barbed, equalling or shorter than the achene; *achene* obovoid, brown, 3-angled, abruptly beaked by the slender style base; *stigmas* 3.

Quiet shallow water of ponds or streams; southern Alaska to southern Oregon, east to Newfoundland and South Carolina; rare in British Columbia, mainly Vancouver Island and the Lower Mainland.


BRITISH COLUMBIA
Water clubrush
(Scirpus subterminalis)
MILES
0 100 200
0 100 200 300
KILOMETRES
130° W
60° N
120° W
55° N
50° N

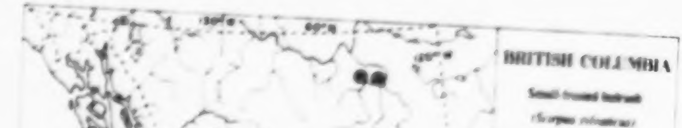


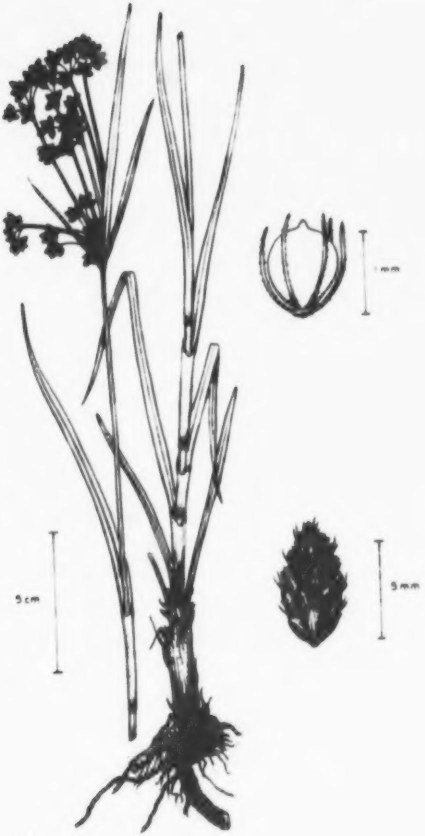
Water clubrush (*Scirpus subterminalis*)

Scirpus sylvaticus L. **Small-fruited bulrush**

Perennial from a stout, creeping rhizome. *Culms* up to 1.5 m tall, stout, exceeded by the leaves. *Leaves* several, blades flat, grass-like, up to 15 mm wide, sometimes more sheaths more or less reddish-purple-tinted. *Spikelets* 4-6 mm long, numerous, sessile in small clusters at the ends of spreading peduncles; *bracts* several, conspicuous, leaf-like, sheathless, longest 1-3 dm long; *scales* brown, midrib greenish sometimes prolonged into a minute point; *bristles* 4-6, minutely downwardly barbed, slightly longer than the achene but not exceeding the scales; *achenes* about 1 mm long, lens-shaped, pale; *stamens* 2; *stigmas* 2. (Including *S. microcarpus* Presl, *S. rubrotinctus* Fern.)

Wet ground from low to moderate altitudes; British Columbia to Newfoundland, south to California, Arizona, New Mexico, to West Virginia; Eurasia; known in suitable habitats throughout British Columbia.





Small-fruited bulrush *(Scirpus sylvaticus)*

Excluded Species

Carex adusta **Boott**

Reported from our area by Scoggan (1978) but without the citation of voucher specimens. In the absence of collections in the herbaria of both the University of British Columbia and the British Columbia Provincial Museum it seems best to exclude this species for the present.

Carex alma **Bailey**

The inclusion of this species in our flora by Henry (1915) is based on a specimen collected by John Macoun at Yale (as *C. leiorhynca* Mey.) in 1881. This is likely a misidentification as the species ranges from southern Arizona to California and Nevada.

Carex bella **Bailey**

Scoggan (1978) says that the specimen in the National Herbarium from McLeod Lake is incomplete and is more likely *Carex bigelovii*. *Carex bella* ranges from South Dakota south to New Mexico and Arizona.

Carex castanea **Wahl.**

Reported in the British Columbia Provincial Museum Catalogue (1921) under *C. flexilis* Rudge, as being collected at Ucluelet with the comment: "Introduced from the East with cranberry plants." Apparently it has not been re-collected and is probably extinct.

Carex communis **Bailey**

Henry (1915) reports this species from the "Rockies, Selkirks and southeast Kootenays." Its distribution in Canada is from Manitoba eastward and no specimen has been found to support this British Columbia record. Unfortunately a great many of Henry's collections were destroyed by insects and the vouchers for these records must have been among them. Its occurrence in the province is very unlikely. Henry probably misidentified some other species of Montanae.

***Carex haydenii* Dewey**

Scoggan (1978) says that reports of this eastern species from British Columbia require confirmation. No collections have been found to warrant its inclusion in our flora.

***Carex hookeriana* Dewey**

This species of the northern Great Plains is reported from the British Columbia by Henry (1915) but without locality. As no voucher specimen has been found its occurrence in our area is very questionable.

***Carex lacustris* Willd.**

A specimen in the British Columbia Provincial Museum herbarium collected at Lost Lake on Vancouver Island bears this name. It appears, however, to be a form of *C. atherodes* Spreng. *Carex lacustris* occurs from Alberta eastward.

***Carex leporaina* L.**

There is a difference of opinion among North American botanists as to whether or not *C. tracyi* Mack. of North America is conspecific with *C. leporina* (auth., not L.) of Europe. Until there is more agreement on this question it seems best to drop the name *C. leporina* from our provincial flora and use *C. tracyi*. The implication of using *C. leporina* for this complex is that all North America populations have arisen from original introductions which, if so, must have been about 100 years ago in British Columbia.

***Carex merritt-fernaldii* Mack.**

The basis for the report of the occurrence of this species from British Columbia by Fernald (1950) is not known and is almost certainly based on a misidentification of a species that ranges from Manitoba eastward.

***Carex nebrascensis* Dewey**

Specimens attributed to this species by Macoun (see Boivin 1979) have been revised to *Carex aquatilis* and *C. sitchensis*.

Carex norvegica Retz

Murray (1969) states this to be an eastern arctic species with a disjunct population in the southern Rocky Mountains. Other than this population it is believed to have its western limit in North America at the west coast of Hudson Bay. Specimens from British Columbia so named are likely to be *Carex media* R.Br.

Carex novae-angliae Schw.

Scoggan (1978) says that the reports of this species from British Columbia by John Macoun and Carter and Newcombe (1921) are based on specimens in the herbarium of the National Museum of Natural Sciences, Ottawa. These are in fact *Carex rossii* Boott *C. deflexa* Hornem.

Carex prionophylla Holm

Listed as occurring in British Columbia by Taylor and MacBryde (1977) but substantiating specimens have not been found. It is possible that it may occur in the dry southeastern corner of the province.

Carex proposita Mack.

Although no voucher specimens have been located to support the inclusion of this species in our flora it is listed by Taylor and MacBryde (1977) as occurring in British Columbia. It is possible that it may be found in the southern Okanagan as it is reported from the Wenatchee Mountains of Washington by Cronquist (1969).

Carex straminea Willd.

The inclusion of this eastern species in our flora apparently rests on collects from Alberni and Saltspring Island determined as *C. straminea* var. *mixta* Bailey. This variety is commonly regarded as a synonym of *C. feta* Bailey. Another collection from Cedar Hill, Vancouver Island in the herbarium of the National Museum of Natural Sciences, Ottawa, is *C. tenera* Dewey.

Carex subfusca Boott

The Eastham (1947) specimen reported from Vancouver as being this species is more likely *C. macloviana* D'Urv. The range of *C. sub-*

fusca is from southwestern Oregon to California and eastward to Utah and Arizona. Its occurrence in British Columbia is very doubtful.

Carex tincta **Fern.**

Reported from southern British Columbia (Hector) by Scoggan (1978). As pointed out by Boivin (1979) the biological status of this species is uncertain and it may in fact be a hybrid between *Carex bebbii* Olney and some other member of the Ovales. For the present at least it is perhaps best not to include it in British Columbia's flora.

Carex torreyi **Tuckerm.**

Although reported from northeastern British Columbia by Boivin (1979) no supporting specimens have been found. It is to be expected in the Peace River country.

Carex umbellata **Schkuhr**

Although specific lines are hard to draw in the Montanae there is farily general agreement that this species does not occur in British Columbia being represented here by *C. deflexa* Hornem.

Carex vesicaria **L.**

In the opinion of some caricologists this is a European species. It is represented in British Columbia by *C. exsiccata* Bailey.

Cyperus esculantus **L.**

This species of southern Ontario and eastward is occasionally found with us under garden conditions. To date there is no evidence that it has established itself in British Columbia.

Eleocharis atropurpurea **(Retz) Kunth**

This species, generally considered to be sporadic in Western North America is reported by Cronquist (1969) as occurring at Osoyoos Lake. As there are no recent collections from British Columbia the species may well be extinct.

***Hemocarpha micrantha* (Vahl) Pax.**

Scoggan (1978) states that the report of this species from Victoria by Eastham (1947) is based on specimens in the herbarium of the National Museum of Natural Science, Ottawa. There are in fact *Scirpus setaceus* L.

***Scirpus robustus* Pursh**

Koyama (1962) points out that this is a coastal species occurring in the west in California, Mexico and South America. British Columbia collections belong with *S. maritimus* L. which, despite its name, does range inland as well.

GLOSSARY

Achene—small, dry and hard, one-seeded fruit that remains persistently closed.

Acuminate—tapering gradually to a point.

Acute—distinctly and sharply pointed, but not drawn out.

aphyllopodic—lower leaves bladeless or nearly so.

Apiculate—ending in a short, and sharp, but not stiff, point.

Appressed—lying flat against an organ.

Attenuate—long tapering, acuminate.

Auriculate—with ear-shaped lobes, usually basal.

Awn—a bristle-like appendage.

Bract—a modified leaf in whose axil a flower arises, or belonging to an inflorescence.

Caespitose—having low, closely matted stems; growing in bunches or tufts.

Caniculate—channeled lengthwise.

Carpel—a simple pistil; one unit of a compound pistil.

Ciliate—fringed with hairs on the margin.

Clavate—club-shaped; gradually thickened upwards.

Coriaceus—leathery in texture.

Culm—the type of hollow or pithy stem, found in grasses and sedges, on which the flowers are borne.

Decumbent—reclining or lying on the ground but with the ends ascending.

Dioecious—having staminate and pistillate flowers on different plants.

Divaricate—diverging widely.

Dorsal—pertaining to the back, or outer surface.

Excurrent—running through to the apex and beyond, so mucronate.

Exserted—sticking out; projecting beyond, as stamens from a perianth.

Fibrillose—furnished or abounding with fine fibres.

Filamentose—composed of, or breaking up into, threads.

Filiform—thread-like.

Flexuous—bent alternately in opposite directions.

Glabrous—smooth, without pubescence or hair of any kind.

Glaucous—with a bluish, or whitish, waxy covering.

Globose—spherical, globular.

Hyaline—clear, transparent or translucent.

Inflated—blown-up; bladdery.

Inflorescence—flower cluster of whatever sort.

Involucre—a cluster of bracts subtending a flower or inflorescence.

Involute—rolled in from the edges, the upper surface within.

Imbricate—overlapping, as shingles on a roof.

Lanceolate—lance-shaped, rather narrow. Tapering to both ends with the broadest part below the middle.

Lenticular—lens-shaped.

Membranaceous—thin, soft and pliable, like a membrane.

Moniliform—like a string of beads.

Mucronate—with a short, abrupt tip.

Nerve—a simple or unbranched vein or slender rib.

Nodulose—with little knobs or knots.

Orifice—any opening.

Ovary—that part of the pistil where seeds ultimately develop.

Papilla—small pimple-like protuberance.

Papillose—bearing papillae.

Peduncle—a primary flower stalk supporting either a cluster or a solitary flower.

Perianth—the floral envelope of whatever form; the calyx and corolla.

Perigynium—the inflated, sac-like organ surrounding the ovary or achene in *Carex*.

Persistent—remaining attached; not falling off.

Pistil—the seed-baring organ of a flower, usually consisting of ovary, style and stigma.

Pistillate—provided with pistils, e.g. flowers that lack stamens.

Plano-convex—flat on one surface, rounded on the other.

Puberulent—minutely pubescent.

Pubescent—covered with hairs, especially short, soft and down-like.

Puncticulate—minutely marked with dots, depressions or translucent glands.

Retrorse—bent or turned downward or backward.

Revolute—rolled backward; margin rolled toward the lower side.

Rhizome—a prostrate, more of less elongate stem, partly or completely beneath the surface of the ground, usually rooting; rootstock.

Rugulose—finely wrinkled.

Scabrous—rough to the touch.

Septate—divided by cross-walls.

Serrate—with small, sharp teeth pointing forwards.

Serrulate—minutely serrate.

Sessile—not stalked.

Spathe—the bract or pair of bracts surrounding a flower cluster.

Spike—an inflorescence consisting of a central axis bearing a number of sessile flowers.

Staminate—having stamens only (pistils lacking).

Stigma—the top part of the pistil on which the pollen is deposited and where it germinates.

Stipitate—having a stipe or stalk.

Stolon—a runner or any basal branch which is disposed to root.

Stoloniferous—with stolons or runners that take root.

Striate—with fine grooves, ridges or lines of colour.

Subulate—awl-shaped; very narrow and tapering gradually from the base.

Suture—a junction or seam of union; a line of opening.

Terete—circular in cross-section.

Trigonous—three-angled.

Truncate—cut squarely across at the apex or base.

Tubercle—wart-like outgrowth, or protuberance; the base of the style in some species of *Eleocharis*.

Turgid—swollen from fullness, but not from air.

Ventral—pertaining to the inner face of an organ; opposed to dorsal.

REFERENCES

Beetle, A.A. 1947. *Scirpus*. *In* North American Flora 18:481-504.

Boivin, B. 1979. Flora of the Prairie Provinces, Cyperaceae. Phytologia 43:55-158.

British Columbia Provincial Museum. 1921. A preliminary catalogue of the Flora of Vancouver and Queen Charlotte Islands. Victoria, B.C.

Cronquist, A. 1969. *In* Hitchcock, Cronquist, Ownby and Thompson, Vascular Plants of the Pacific Northwest 1:220-345. University of Washington Press, Seattle.

Fernald, M. L. 1905. North American species of *Eriophorum*. Rhodora 7:81-92 & 129-136.

— 1925. The identity of *Eriophorum callitrix*. Rhodora 27:203-210.

— 1935. Midsummer Vascular Plants of Southeastern Virginia, *Rhynchospora*. Rhodora 37:399-405.

— 1950. Gray's Manual of Botany, 8th edition. American Book Company, New York.

Gale, S. 1944. *Rhynchospora*, Section *Eurhynchospora*, in Canada, the United States, and the West Indies. Rhodora 46:89-134, 159-197, 207-249 & 255-278.

Hermann, F. J. 1970. Manual of the Carices of the Rocky Mountains and Colorado Basin. Agricultural Handbook 374. Forest Service, U.S. Dept. of Agriculture, Washington, D.C.

Koyama, T. 1958. Taxonomic study of the genus *Scirpus* Linne. Journal of the Faculty of Science, University of Tokyo, Botany 7:271-366.

— 1962. The genus *Scirpus* Linn., some North American aphylloid species. Canadian Journal of Botany 40:913-937.

— 1963. Critical species of the Section *Pterolepis*. Canadian Journal of Botany 41:1107-1131.

Mackenzie, K. K. 1931-35. The Genus *Carex*. *In* North American Flora 18:9-478.

— 1940. North American Carices. 2 Vols. New York Botanical Garden, New York.

Murray, D. F. 1969. Taxonomy of *Carex* section Atratae (Cyperaceae) in the southern Rocky Mountains. Brittonia 21:55-76.

— 1970. *Carex podocarpa* and its allies in North America. Canadian Journal of Botany 48:313-324.

POOR

QUALITY

ORIGINAL

Raymond, M. 1954. What is *Eriophorum chamissonis*? Svensk Botanisk Tidskrift 48:65-82.

Schuyler, A. E. 1964. A biosystematic study of the *Scirpus cyperinus* complex. Proceedings of the Academy of Natural Science. Philadelphia 115:283-311.

Scoggan, H. J. 1978. The Flora of Canada. Cyperaceae, part 2:337-452. National Museum of Natural Science publication in Botany 7. National Museums of Canada, Ottawa.

Svenson, H. K. 1957. *Eleocharis*. *In* North American Flora 18:509-540.

Taylor, R. L. and B. MacBryde. 1977. Vascular Plants of British Columbia. University of British Columbia Press, Vancouver, B.C.

Walters, S. M. 1980. Cyperaceae, *in* Flora Europaea 5:276-323. Cambridge University Press, Cambridge.

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